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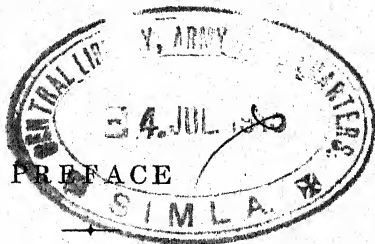
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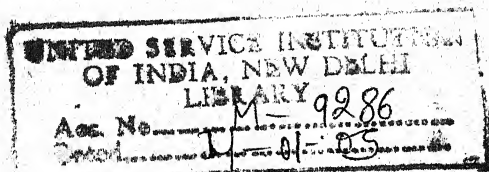
H.E. Mr Tariq Ahmed Karim



THE *Naval Pocket-Book* for 1915 has been produced in circumstances of considerable difficulty, caused both by the lack of trustworthy information and by the fact that the Editor is himself serving afloat. It is to be hoped that readers will make allowances for this.

Next year it ought to be possible to effect great improvements. Any notes which may help in this direction, addressed to me, c/o the Publishers, will be even more welcome than those of past years.

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Shri KVSS Prasad Rao

Mr Tariq Ahmed Karim

# Calendar and Naval Remembrancer

LEST WE FORGET

JANUARY

- 1 Six ships lost off Pondicherry, 1761. *Formidable* sunk, 1915.
- 2 *Sedgemore*, 50, wrecked, 1689.
- 3 *Melpomene's* boats cut out *Sénégal*, 18, 1801.
- 4 *Nonsuch*, 48, taken by Du Guay Trouin, 1695.
- 5 *Blanche*, 32, took *Pique*, 36, 1795.
- 6 Boats of *Bacchante*, 38, took five French gunboats, 1818.
- 7 Boats of *Franchise*, 36, took *Raposa*, 16, 1806.
- 8 Killigrew took *Content*, 60, and *Trident*, 50, 1695.
- 9 Cape of Good Hope taken, 1806.
- 10 *Resolution*, 70, wrecked, 1711.
- 11 Escape of *Juno*, 32, from Toulon Roads, 1794.
- 12 *Dolphin*, 13, and five Turkish ships, 1617.
- 13 *Amazon*, 36, and *Indefatigable*, 44, engaged *Droits de l'Homme*, 74, 1797.
- 14 Captain Cook killed, 1779. Cayenne taken, 1809.
- 15 *Endymion*, 40, took *President*, 44, 1815.
- 16 Rodney defeated De Langara, 1780.
- 17 *Sylph*, 18, wrecked, 1815.
- 18 *Garland*, tender, cut out *Eclair*, 4, 1801.
- 19 *Leander*, 50, engaged a foreign, 74, 1783.
- 20 Downton defeated the Portuguese off Surat, 1615.
- 21 *Hannibal*, 50, taken by French, 1782.
- 22 *Hussar*, 28, took *Sibylle*, 36, 1783.
- 23 *Melampus*, 36, took *Volage*, 22, 1798.
- 24 *Minerva*, 32, took *Warwick*, 60 (34), 1761. Action in North Sea, 1915.
- 25 Hood and de Grasse at St. Kitts, 1782.
- 26 Hood and de Grasse (2nd action), 1782.
- 27 *Lark*, 18, took *Postillon*, 3, 1807.
- 28 Drake died, 1596. *Forle*, 50, wrecked, 1801.
- 29 *Royal Sovereign*, 100, burnt, 1696.
- 30 Boats of *Medea* took *Vrijheid*, 50, at Cuddalore.
- 31 *Nottingham*, 60, and *Portland*, 50, took *Magnanime*, 70, 1748.

## FEBRUARY

- 1 *Proserpine*, 28, wrecked, 1799.
- 2 *Blenheim*, 74, and *Java*, 32, lost, 1807.
- 3 Capture or destruction of ten Spanish vessels in Rattones Harbour, 1807.
- 4 *Dartmouth*, 40, taken by French, 1695.
- 5 *St. Patrick*, 48, taken by *Delft*, 34, and *Schakerloo*, 28, 1667.
- 6 Duckworth's victory off San Domingo, 1806.
- 7 Loss of the *Orpheus* off New Zealand, 1863.
- 8 *Pique*, 40, took *Orquijo*, 18, 1805.
- 9 *Duedalus*, 32, took *Prudente*, 36, 1799.
- 10 *Thistle*, 10, took *Havik*, 10, 1810.
- 11 Mathews' action off Toulon, 1744.
- 12 Boats of *Cerberus* and *Active* took a Venetian *trabacolo*, 6, 1811.
- 13 *Boyne*, 98, and *Caledonia*, 120, engaged off Toulon, 1814.
- 14 Battle of C. St. Vincent, 1797. Dance and Linois, 1804.
- 15 British fleet off Constantinople, 1878.
- 16 *Weymouth*, 60, wrecked, 1745.
- 17 Hughes and Suffren (1st action), 1782.
- 18 Battle of Portland, 1653. *Généreux*, 74, taken, 1800.
- 19 Duckworth passed the Dardanelles, 1807. Attack on Dardanelles begun, 1915.
- 20 *Levant*, 22, and *Cyane*, 22, taken by *Constitution*, 44, 1815.
- 21 Wrenn and De la Roche-Courbon-Blenac, 1692.
- 22 French landing at Fiscard Bay, 1797.
- 23 *Leander*, 50, took *Ville de Milan*, 40, and *Cleopatra*, 32, 1805.
- 24 Digby's squadron took *Protée*, 64, 1780.
- 25 *Cerberus*, 32, took *Grana*, 30, 1781.
- 26 Loss of the *Birkenhead*, 1852.
- 27 *Hydra*, 38, took *Furet*, 20, 1806.
- 28 Elliot defeated Thurot, 1760.
- (29 *Fly*, 16, wrecked off Anholt, 1812.)

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## MARCH

- 1 *Rupert*, 64, took *Algerine Tiger*, 40, 1678.
- 2 Tollet and Du Guay Trouin, 1709.
- 3 *Fly*, 18, wrecked, 1805. *Dwarf*, 10, wrecked, 1824.
- 4 Badiley and Appleton defeated by Dutch at Leghorn, 1653.
- 5 *Phaëbe*, 36, took *Heureux*, 22, 1800.
- 6 *Thistle*, 10, wrecked, 1811. *Pincher*, 5, wrecked, 1838.
- 7 *Berwick*, 74, taken by French frigates, 1795.
- 8 *San Fiorenzo*, 36, took *Piémontaise*, 40, 1808.
- 9 Vernon bombarded Carthage, 1740.
- 10 Leake and De Pointis, 1705.
- 11 *Royal Oak*, 70, took *N.S. del Rosario*, 46, 1727.
- 12 *Topaze*, 36, engaged *Danaë*, 46, and *Flore*, 40, 1809.
- 13 Holmes's action, 1672. Hoste's victory off Lissa, 1811.
- 14 Hotham's action off Genoa, 1795.
- 15 Mutiny of *Danaë*, 20, 1800.
- 16 Arbuthnot and Des Touches, 1781.
- 17 *Queen Charlotte*, 100, blown up, 1800.
- 18 *Illustrious*, 74, wrecked, 1795. *Irresistible*, *Ocean*, and French *Bouvet* sunk in Dardanelles, 1915.
- 19 *Isis*, 50, and *Eolus*, 32, v. four French, taking *Mignonne*, 20, 1759.
- 20 Warren took part of a French convoy, 1796.
- 21 *Peterel*, 16, took *Ligurienne*, 14, 1800.
- 22 *Stately*, 64, and *Nassau*, 64, took *Pr. Christian Frederik*, 68, 1808.
- 23 *Penguin*, 18, taken by *Hornet*, 20, 1815.
- 24 Loss of *Burydice* and 318 lives, 1878.
- 25 Attack on Carthage, Spanish ships destroyed, 1741.
- 26 *Pique*, 36, took *Phaëton*, 16, and *Voltigeur*, 16, 1806.
- 27 *Hebrus*, 36, took *Etoile*, 40, 1814.
- 28 *Phoebe*, 36, and *Cherub*, 18, took *Essex*, 32, 1814.
- 29 *Kingfisher*, 18, took privateer *Général*, 1797.
- 30 *Trent*, 36, and *Sparrow*, 16, at Porto Rico, 1799.
- 31 Capture of *Guillaume Tell*, 80, 1800.

## APRIL

- 1 *Isis*, 50, took *Oriflamme*, 50 (40), 1761.
- 2 Battle of Copenhagen, 1801. *Tiger* lost, 1908.
- 3 Boat action at Bréhat, 1801.
- 4 Blake at Porto Farina, 1655.
- 5 Boats of *Pallas*, 32, cut out *Tapageuse*, 14, 1806.
- 6 *Amethyst*, 36, took *Niemen*, 40, 1809.
- 7 Duckworth's division took *Carmen*, 32, and *Florentina*, 34, 1800.
- 8 *Lenox*, 70, *Kent*, 70, and *Orford*, 70, took *Princesa*, 64.
- 9 Rodney and De Grasse, 1782.
- 10 *Astrea*, 32, took *Gloire*, 36, 1795.
- 11 *Wilhelmina*, 32 (21), took *Psyché*, 32, 1804.
- 12 Rodney and De Grasse, 1782. Hughes and Suffren (2), 1782.
- 13 *Prince George*, 90, burnt, 1758. *Pembroke*, 60, wrecked, 1749.
- 14 *Orpheus*, 32, and *Roebuck*, 44, took *Confederacy*, 32, 1781.
- 15 Sir J. B. Warren took *Jean Bart*, 26, 1795.
- 16 Johnstone and Suffren at Porto Praya, 1781.
- 17 Rodney and De Guichen, 1780.
- 18 Spanish *Princessa* taken, 1740.
- 19 Drake at Cadiz, 1587.
- 20 Blake at Santa Cruz, 1657.
- 21 *Mars*, 74, took *Hercule*, 74, 1798.
- 22 Bombardment of Odessa, 1854.
- 23 Warren's squadron took *Pomone*, 44, and *Babet*, 20, 1794.
- 24 Ten merchantmen fought twelve Spanish galleys, 1590.
- 25 *Gladiator* lost, 1908.
- 26 *Irresistible*, 74, and *Emerald*, 36, took *Ninfa* and *St. Elena*, 1797.
- 27 *Gala* lost, 1908.
- 28 Mutiny of the *Bounty*, 1790.
- 29 Pocock and d'Aché, 1758. Hood and De Grasse, 1781.
- 30 *Medway*, 60, took *Pontchartrain*, 60, 1697.

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## MAY

- 1 Battle of Bantry Bay, 1689. *Boyne*, 98, burnt, 1795.
- 2 *Dover*, 38, wrecked in Madras Roads, 1811.
- 3 Anson defeated La Jonquière off Finisterre, 1747.
- 4 Capture of ten Dutch vessels at Surinam, 1804.
- 5 *Orpheus*, 32, took *Duguay Trouin*, 34, 1794.
- 6 *Portland*, 50, took *Coventry*, 50, 1709. *Speedy*, 14, took *Gamo*, 30, 1801.
- 7 Nelson's *Victory* launched at Chatham, 1765.
- 8 *Northumberland*, 70, taken by French, 1744.
- 9 Boats of *Melampus*, etc., in Gourville Bay, 1795.
- 10 Berry's action at St. Christopher, 1667.
- 11 Capri taken, 1806. Rangoon taken, 1824.
- 12 Young's action off Start Point, 1652.
- 13 Boats of *Flora*, 36, cut out *Mondovi*, 16, 1798.
- 14 *Nonsuch*, 64, and *Actif*, 74, 1781. *Pallas*, 32, and *Mingre*, 40, 1806.
- 15 Rodney and De Guichen, 1780.
- 16 *Tartar*, 32, off Bergen, 1808.
- 17 *Princess*, 52, v. *Faisant*, 38, and *Harderinne*, 38, 1667.
- 18 Anholt taken, 1809.
- 19 Battle of Barfleur, 1692. Rodney and De Guichen, 1780.
- 20 Byng's action off Minorca, 1756.
- 21 *Active* and *Favourite* took treasure-ship *Hermione*, 1762.
- 22 *Kingfisher*, 46, and eight Algerines, 1681.
- 23 *Melpomene*, 38, and twenty Danish gunboats, 1809.
- 24 Forcing of the Strait of Kertch, 1855.
- 25 *Discovery*, 30, burnt, 1655.
- 26 *Primrose* of London attacked off Bilbao, 1585.
- 27 *Venus*, 32, and *Sémillante*, 32, 1793.
- 28 Battle of Solebay, 1672. Battle of Schooneveld, 1673.
- 29 *Dorsetshire*, 70, took *Raisonné*, 64, 1758.
- 30 *Flora*, 36, took *Castor*, 36, 1781. *Montagu* lost, 1906.
- 31 *Antelope*, 50, took *Duc d'Aquitaine*, 50, 1757.

## JUNE

- 1 Four days' fight, 1666. Howe's victory, 1794.
- 2 Battle of the Gabart Sand, 1653.
- 3 Cezimbra Road, 1602. Battle of Lowestoft, 1665.
- 4 Second Battle of Schooneveld, 1673.
- 5 *Centaur*, 74, took *Ste. Anne*, 64 (40).
- 6 Boats of *Impétueux*, 78, burnt *Insolente*, 18, 1800.
- 7 Capture of Belleisle, 1761.
- 8 *Unicorn*, 32, took *Tribune*, 36, 1796.
- 9 *Kangaroo*, 18, and *Speedy*, 14, sank three Spanish vessels, 1801.
- 10 *Southampton*, 32, took *Utile*, 24, 1796.
- 11 Death of Captain Sir John Franklin, 1847.
- 12 Ayscue's action with the Dutch off the Lizard, 1652.
- 13 *Dryad*, 36, took *Proserpine*, 40, 1796.
- 14 The Dutch in the Medway, 1667.
- 15 Prince William Henry (William IV.) entered the Navy, 1779.
- 16 Loss of the transport *Megara*, 1871.
- 17 Cornwallis' retreat, 1795.
- 18 *Nymphe*, 36, took *Cléopâtre*, 36, 1793.
- 19 *Seagull*, 16, taken by *Loug*, 20, 1808.
- 20 Cornwallis and De Ternay, 1780. Hughes and Suffren, (4), 1783.
- 21 Essex and Howard at Cadiz, 1596.
- 22 Loss of *Victoria*, 1893.
- 23 Bridport's victory off Isle de Groix, 1795.
- 24 Battle of Sluys, 1340. *Swiftsure*, 74, taken by French, 1801.
- 25 Harman at Martinique, 1667. Peyton and La Bourdonais, 1746.
- 26 Louisbourg taken, 1758.
- 27 *Maidstone*, 60, wrecked, 1747.
- 28 Louisbourg taken, 1745. *Reindeer*, 18, taken by *Wasp*, 22, 1814.
- 29 *Safeguard*, 13, taken by four Danish gunboats, 1811.
- 30 Battle of Beachy Head, 1690.

JOURN  
Establi



RING

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## JULY.

- 1 *Tartar*, 28, wrecked, 1797.
- 2 *Minerve*, 40, wrecked, 1803.
- 3 *Deal Castle*, 24, taken by the French, 1706.
- 4 Bombardment of St. Malo, 1695.
- 5 Capture of four Danish gunboats, 1811.
- 6 Byron and d'Estaing, 1779. Hughes and Suffren (3), 1782.
- 7 Capture and destruction of Russian gunboats in Barø Sund, 1809.
- 8 Destruction of batteries at Sulina, mouth of Danube, 1854.
- 9 Convoy taken by four Danish brigs, 1810.
- 10 *Amazon* lost in the Channel, 1866.
- 11 Bombardment of Alexandria, 1882.
- 12 Saumarez' victory near Gibraltar, 1801.
- 13 Velez Malaga, 1704. Hotham's action off Hyères, 1795.
- 14 *Warwick*, 60, and *Glorioso*, 74, 1747.
- 15 *Glatton*, 56, and seven French ships, 1796.
- 16 *Minstrel*, 18, took *Orienza*, 10, 1808.
- 17 Sir J. B. Warren destroyed *Calliope*, 36, 1797.
- 18 Owen engaged French flotilla near C. Grisez, 1805.
- 19 Battle of Spithead, loss of *Mary Rose*, 1545.
- 20 Blackwood off Bandol, 1810.
- 21 Battle off Plymouth, 1588.
- 22 Calder's action off Ferrol, 1805.
- 23 Battle off Portland, 1588.
- 24 Capture of Gibraltar, 1704.
- 25 Battle off Isle of Wight, 1588. N. Foreland, 1666.
- 26 Blake v. Rupert, etc., off Lisbon, 1650.
- 27 Keppel and d'Orvilliers off Ushant, 1778.
- 28 Relief of Londonderry, 1689.
- 29 Battle of Gravelines, 1588.
- 30 *Meleager*, 36, wrecked off Jamaica, 1808.
- 31 Battle off Scheveningen, 1653.



## AUGUST

- 1 Battle of the Nile, 1798.
- 2 *Tigress*, 14, taken by sixteen Danish gunboats, 1808.
- 3 Pocock and d'Aché (2nd action), 1758.
- 4 *Belliqueux*, 64, and *Indiamen* took *Concorde*, 40, and *Médée*, 36, 1800.
- 5 Hyde Parker and Zoutman on Dogger Bank, 1781.
- 6 *Blenheim*, 74, v. *Marengo*, 74, and *Belle Poule*, 40, 1805. *Amphion* sunk by mine, 1914.
- 7 Robert Blake and Richard Badiley, died, 1657.
- 8 Holmes at Terschelling, 1666.
- 9 Banda Neira taken, 1810. Bombardment of Sveaborg, 1855.
- 10 Battle off Brest, 1512. *Phoenix*, 36, took *Didon*, 40, 1805.
- 11 Battle off the Texel, 1673. Cape Passaro, 1718.
- 12 Action with the French off C. Hogue, 1650.
- 13 Velez Malaga, 1704. Capture of Havanna, 1762.
- 14 *Bellona*, 74, took *Courageux*, 74, 1761.
- 15 Lisle and d'Annebaut, 1545.
- 16 Ayscue and Ruyter, 1652. *Isis*, 50, and *César*, 74, 1778.
- 17 Surrender of Dutch Fleet, Saldanha Bay, 1796.
- 18 Boscawen's victory, 1759. *Leander*, 50, taken by *Généreux*, 74, 1798.
- 19 *Guerrière*, 38, taken by *Constitution*, 44, 1812.
- 20 *Clyde*, 36, took *Vestale*, 36, 1799.
- 21 Capture of the Taku Forts, 1860.
- 22 Cornwallis and Ganteaume off Brest, 1805.
- 23 Capture of Hong Kong, 1839.
- 24 Hubert de Burgh and Eustace the Monk, 1217.
- 25 *Seine*, 38, took *Vengeance*, 40, 1800.
- 26 *Implacable*, 74, and *Centaur*, 74, took *Vsevolod*, 74, 1808.
- 27 Battle of Elba, 1652. Bombardment of Algiers, 1816.
- 28 Dutch ships taken in Nieuwe Diep, 1799. Action near Heligoland, 1914.
- 29 "Espagnols sur Mer," 1350. Loss of *Royal George*, 100, 1782.
- 30 Surrender of Dutch Fleet, 1799.
- 31 The last fight of the *Revenge*, 1591.

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## SEPTEMBER

- 1 Loss of the *Vanguard*, 1874.
- 2 Capture of Alexandria, 1801.
- 3 Hughes and Suffren (4th action), 1782.
- 4 *Rainbow*, 44, took *Hébé*, 40, 1782.
- 5 Graves and de Grasse, 1781. Capture of Malta, 1800.  
*Pathfinder* sunk by mine, 1914.
- 6 *Victor*, 18, and *Fleche*, 18, 1801.
- 7 Surrender of Danish Fleet, 1807. Loss of *Captain*, 1870.
- 8 *Theseus*, 74, took *Sagesse*, 28, 1803.
- 9 Boats of *Sheerness*, 8, took two *Chasse-Mariées*, 1803.
- 10 Stayner's action, 1656. Pocock and d'Aché (3), 1759.
- 11 Downie defeated by Macdonough on L. Champlain,  
1814.
- 12 *Bucephalus*, 36, v. *Nymphe*, 40, and *Méduse*, 40, 1811.
- 13 Naval Brigade at Tel-el-Kebir, 1882. *E9* sank *Hela*,  
1914.
- 14 Blake took Portuguese Brazil ships, 1650.
- 15 *Centurion*, 50, and three French ships, 1804.
- 16 Cape of Good Hope taken, 1795.
- 17 *Castor* and *Pique* captured *Cuiffa*, 1840.
- 18 Quebec taken, 1759. *Cobra* lost, 1901.
- 19 *Carlisle*, 60, blown up, 1700.
- 20 *Plymouth*, 60, took *Adriade*, 48, 1709. *Aboukir*, *Cressy*,  
and *Hogue* sunk, 1914.
- 21 *Southampton*, 32, took *Emeraude*, 28, 1757.
- 22 *Amphion*, 32, blown up at Plymouth, 1796. *Pegasus*  
sunk at Zanzibar, 1914.
- 23 *Serapis*, taken by *Bonhomme Richard*, 1779.
- 24 *Tilbury*, 60, and *Ferret*, 10, lost off Louisbourg, 1757.
- 25 *Georgiana*, gunboat, wrecked, 1804.
- 26 *Calcutta*, 54, taken by *Magnanime*, 74, 1805.
- 27 *Dispatch*, 18, with a squadron, took *Presidente*, 40,  
1806.
- 28 Battle of the Kentish Knock, 1652.
- 29 Horatio Nelson born, 1758.
- 30 *Constant Reformation*, 60, lost, 1651. *Antelope*, 52,  
wrecked, 1652.

- 1 Knowles' victory off Havanna, 1748.
- 2 Boats of *Dominica*, 14, cut out *Manette* and *Dauphin* sloops, 1806.
- 3 *Narcissus*, 20, wrecked, 1796.
- 4 Action off the Skaw, 1652.
- 5 *Victory*, 100, lost, 1744. Manilla taken, 1761.
- 6 *King George*, 32, and *Glorioso*, 74, 1747.
- 7 *Censeur*, 74, and part of a British convoy taken, 1795.
- 8 *Dartmouth* blew up in action with *Glorioso*, 74, 1747.
- 9 *Russell*, 74, took *Glorioso*, 74, 1747.
- 10 *Cumberland*, 80, *Devonshire*, 80, *Chester*, 50, and *Ruby*, 50, taken or destroyed, 1710.
- 11 Battle of Camperdown, 1797.
- 12 Battle of Vigo, 1702. Warren and Bompart, 1798.
- 13 Battle of Lake Champlain, 1776.
- 14 Hawke's victory off Finisterre, 1747.
- 15 *Edgar*, 70, blew up at Spithead, 1711. *Hawke* sunk, 1914.
- 16 *Dreadnought*, 62, lost, 1690.
- 17 Bombardment of Sevastopol, 1854. Destroyer action near Dutch coast, 1914.
- 18 French *Sirène*, 34, and *Valeur*, 20, taken, and two destroyed, 1760.
- 19 *Loyal Subject* lost, 1651. *Impregnable*, 98, wrecked, 1799.
- 20 Blake took *Jules*, 32, 1650. Battle of Navarino, 1827.
- 21 Forrest and de Kersaint, 1757. Trafalgar, 1805.
- 22 *Association*, 90, wrecked, 1707.
- 23 *Augusta*, 64, burnt, 1777.
- 24 Defeat of Spanish galleys in Straits of Dover, 1602.
- 25 Martin and Baudin, 1809.
- 26 *Gloucester*, 60, taken by *Achille*, 64, 1709.
- 27 Boscawen and Duchaffault, 1758.
- 28 *Pasley*, 16, took the *Virgen del Rosario*, 10, 1801.
- 29 Best defeated Portuguese off Surat, 1612.
- 30 *Admiral Rainier*, 16, took three Dutch gunboats, 1800.
- 31 Hallowell at Rosas Bay, 1809.



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## NOVEMBER

- 1 *Tartar*, 28, took *Mélampe*, 36, 1757. *Good Hope* and *Monmouth* lost in action off Chilian coast, 1914.
- 2 *Cumberland*, 56, lost, 1760.
- 3 *Buckingham*, 70, and *Florissant*, 74, 1758. Bombardment of Acre, 1840.
- 4 Strachan's victory, 1805.
- 5 Pellew and Emériaux, 1813.
- 6 *Alexander*, 74, taken by a French squadron, 1794.
- 7 *Netley*, 14, took *San Miguel*, 1800.
- 8 Boats of *Quebec*, 32, cut out *Jeune-Louise*, 14, 1810.
- 9 *Restoration*, 70, wrecked, 1711.
- 10 *Auguste*, 60, wrecked, 1716. *Serpent* lost, 1890. *Sydney* destroyed *Emden*, 1914.
- 11 *Nottingham*, took *Mars*, 1746.
- 12 *Elizabeth*, 70, taken by French, 1704.
- 13 *Helena*, 18, took *Revanche*, 16, 1809.
- 14 *Cerberus*, 32, took *Renard*, 18, 1797.
- 15 Minorca surrendered to Duckworth, 1798.
- 16 Cutting out of *Harmonie*, 1803.
- 17 *Royalist*, 18, took *Grand Napoléon*, 18, 1809.
- 18 *Latona*, 38, engaged *Jean Bart*, 74, and *Tigre*, 74, 1793.
- 19 *Winchelsea*, 20, took *Subtile*, 26, 1747.
- 20 Battle of Quiberon Bay, 1759.
- 21 Vernon took Porto Bello, 1739.
- 22 *Solebay*, 32, took four French vessels, 1799.
- 23 *Perlen*, 38, v. *Trident*, 74, and *Amélie*, 40, 1811.
- 24 *Fork*, 60, wrecked, 1703. *Venerable*, 74, wrecked, 1804.
- 25 Naval Brigade at Graspan, 1899.
- 26 The Great Storm, 1703. *Bulwark* blown up, 1914.
- 27 *Eagle*, 74, took *Corcyre*, 28.
- 28 *Ardent*, 64, destroyed, *Bayonnaise*, 28.
- 29 *Lichfield*, 50, wrecked, 1758. *Marlborough*, 70, lost, 1762.
- 30 Blake defeated by Tromp off Dungeness, 1652.

## DECEMBER

- 1 *Carolina*, 36, took *Pandore*, 14, 1795.
- 2 Naval Brigade at Meaday, 1825.
- 3 Seventeen French vessels taken at Mauritius, 1810.
- 4 Boats of *Sultan*, 74, took two French vessels, 1811.
- 5 *Sceptre*, 64, wrecked in Table Bay, 1799.
- 6 *Ruby*, 64, took *Solitaire*, 64, 1782.
- 7 *Rinaldo*, 10, took *Marauder*, 14, 1810.
- 8 *Mary Rose*, 48, and seven Algerines, 1669. Battle of Falkland Islands, 1914.
- 9 *St. Albans*, 50, wrecked, 1693.
- 10 *Courageux*, 74, wrecked, 1795. *Colossus*, 74, wrecked, 1798.
- 11 Pellew destroyed three Dutch, 68's, in Java, 1807.
- 12 *Mediator*, 44, took *Menagère*, 64 (34), 1782. *Bill* sank *Messudieh*, 1914..
- 13 *Terpsichore*, 32, took *Vestale*, 36, 1796.
- 14 *Ambuscade*, 32, taken by *Bayonnaise*, 24, 1798.
- 15 Barrington and d'Estaing, 1778.
- 16 *Kingfisher*, 18, took *La Elizabeth*, 1806.
- 17 *Rosamond*, 18, took *Papillon*, 16, 1809.
- 18 Hyde Parker and De la Motte, 1779.
- 19 *Minerve*, 38, took *Sabina*, 40, 1796.
- 20 *Avenger* lost with 256 lives, 1847.
- 21 Rowley's squadron took *Blanche*, 32, 1779.
- 22 *Phæbe*, 36, took *Néréide*, 36, 1797.
- 23 *Diomede*, 44, *Astræa*, 32, and *Quebec*, 32, took *S. Carolina*, 40.
- 24 *St. George*, 98, and *Defence*, 74, wrecked, 1811.
- 25 *Henrietta*, 62, and *Centurion*, 48, wrecked, 1689.
- 26 *Viper*, 14, took *Furet*, 14, 1799.
- 27 *Hunter*, 14, wrecked, 1797.
- 28 *Spitfire*, 20, took *Wilding*, 14, 1798. *Anson*, 44, took *Daphné*, 30, 1797.
- 29 *Java*, 38, taken by *Constitution*, 44, 1812.
- 30 *Biddeford*, 20, wrecked, 1761.
- 31 *Isis*, 50, and *Rotterdam*, 50, 1780.

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Mr Tariq Ahmed Karim

## CLASSIFICATION OF SHIPS

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To help in the making of rough comparisons the following method of classification is applied to each Fleet. The initial letter denoting the class is prefixed to the name of each ship or class of ships. In a few cases the individual peculiarities of a ship have necessitated a slight modification of the strict classification.

- A\*** Ships carrying eight or more 13·5-inch or larger guns.
- A** Ships carrying eight or more 11-inch or 12-inch guns.
- B** Ships carrying 11-inch or larger guns, and a secondary armament of 7-inch or larger guns.
- C** Other Battleships of 10,000 tons or more, launched since 1890.
- D** Older or smaller Battleships.
- E** Armoured Cruisers carrying four or more 9·2-inch or larger guns.
- F** Armoured Cruisers carrying fewer or smaller big guns.
- G** Armoured Cruisers with weak armament or thin armour.
- H** Protected Cruisers of 8000 tons or more.
- I** Protected Cruisers of 3000 to 8000 tons.
- J** Smaller protected Cruisers.
- K** Scouts.
- L** Torpedo Gunboats.
- M\*** Destroyers of 800 tons or more.
- M** Destroyers of 500 tons or more.
- N** Smaller Destroyers.
- O** Torpedo Boats of 100 tons or more.
- P** Smaller modern Torpedo Boats.
- Q** Obsolete Torpedo Boats.
- R** Sloops and Gunboats.
- S** Submarines.
- T** Armed Merchantmen.
- U** Armoured ships for Harbour Defence.
- V** River or other small Gunboats.
- W** Fleet Auxiliaries.
- X** Miscellaneous seagoing ships.
- Y** Miscellaneous small River Craft.
- Z** Hulks and Stationary Vessels.

## NOTES TO, AND ABBREVIATIONS USED IN, THE TABLES

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VESSELS are *arranged* according to their ordinary classification, and not according to the special system of classification explained on page xxv.

Preceding the name of each vessel, or, when several vessels are sisters, preceding all the names, is the initial denoting the class, according to the table on page xxv.

Beside the name of each vessel (except in cases where the information is given in the descriptive text, or where it has not as yet been ascertained) are given the place and date of the ship's launch or floating out of dock for the first time; and also the date of laying down.

The bunker capacity of a vessel is given in tons. Where two quantities are mentioned, thus: 1500/4000, the signification is that the ship, at her normal displacement, *i.e.* at the displacement indicated, can carry 1500 tons of coal, but that in an emergency she has room for 4000 tons. As a rule ships coaling on service fill their bunkers. The "normal" quantity is that which brings the ship down to her trial draught. *Tons* and *Horse-power* are in each case English, not metric.

Speeds given are designed speeds, except in the case of torpedo craft, where trial speeds are given if known. Particulars of trials of bigger ships are given when possible.

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The following are among the abbreviations made use of:—

A.E.G., Allgemeine Elektrizitäts-Gesellschaft. (Modified Curtis turbines.)	Lr. dk., lower deck.
Ammun., ammunition.	M., machine (gun).
A.P., armour-piercing (shell).	M.L., muzzleloading.
Armst., Armstrong.	Max., Maxim machine gun.
Arm't., armament.	max., maximum.
Auth., authorised.	mil., military.
B., Beam.	mn. dk., main deck.
B., breechloader, breechloading.	N.O.D., Naval Ordnance Department.
B.M., builders' measurement.	
Bard., barrelled.	N.S., nickel steel.
Bldg. or Bdg., building.	Nom., nominal.
Cal., cal's., calibre (in length).	Nord., Nordenfelt machine gun.
Cap., capacity.	o. a., over all (length).
c. b., central battery.	p.p., between perpendiculars.
Com., common (shell).	pr., pounder.
Compt., complement (as a private ship).	Pr., pro., proj., projected.
C.T. or Con. tower, conning tower.	Prot., protected (by under-water deck).
Cylind., cylinder, cylindrical.	Purchd., purchased.
Diam., diameter.	Q., quick-firing (gun).
Disp., displacement.	Q.F.C., Quick-firer, converted.
Ests., Estimates.	R.F., rapid-firing, i.e. Q.
Expans., expansion; "s expans.," triple expansion.	R.G.F., Royal Gun Factory.
f. and a., fore and aft.	R.L., Royal Laboratory.
H.S., Harveyed steel.	Reconstr., reconstructing, reconstructed.
H.N.S., Harveyed nickel steel.	Revolv., revolving cannon (Hotchkiss).
H.P., horse-power.	Revs., revolutions (of engines).
Horiz., horizontal.	Sig., signal.
I.H.P., indicated horse-power.	T.B., torpedo boat.
K.S., Krupp steel.	T.B.D., torpedo boat destroyer.
Ld. dn., laid down.	Vertic., vertical.
Loco., locomotive.	W.D., War Department.
	w.l., water line.



## COMPARATIVE SUMMARY

## COMPLETED WARSHIPS OF THE MORE IMPORTANT CLASSES

Classes.		Argentina.	Austria-Hungary.	Brazil.	Chili.	China.	Denmark.
A*	Ships carrying eight or more 13·5-inch or larger guns . . . . .	..	..	..	..	..	..
A	Ships carrying eight or more 11-inch or 12-inch guns . . . . .	2	3	2	..	..	..
B	Ships carrying 11-inch or larger guns, and a secondary armament of 7-inch or larger guns . . . . .	..	3	..	..	..	..
C	Other Battleships of 10,000 tons or more, launched since 1890 . . . . .	..	3	..	..	..	..
D	Older or smaller Battleships . . . . .	2	8	2	1	..	5
E	Armoured Cruisers carrying four or more 9·2-inch or larger guns . . . . .	..	..	..	..	..	..
F	Armoured Cruisers carrying fewer or smaller big guns . . . . .	4	3	..	1	..	..
G	Armoured Cruisers with weak armament or thin armour . . . . .	..	..	..	1	..	..
H	Protected Cruisers of 8000 tons or more . . . . .	..	..	..	..	..	..
I	Protected Cruisers of 3000 to 8000 tons . . . . .	3	1	4	2	1	..
J	Smaller protected Cruisers . . . . .	..	2	1	1	5	4
K	Scouts . . . . .	..	4	..	..	..	..
L	Torpedo Gunboats . . . . .	2	7	4	2	3	..
M*	Destroyers of 800 tons or more . . . . .	4	..	..	..	..	..
N	Destroyers of 500 tons or more . . . . .	..	6	10	..	..	..
O	Smaller Destroyers . . . . .	3	12	..	6	4	9
P	Torpedo Boats of 100 tons or more . . . . .	2	42	5	6	8	10
Q	Smaller modern Torpedo Boats . . . . .	10	20	..	1	..	15
R	Submarines . . . . .	..	9	3	..	..	11

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## OF THE FIGHTING FLEETS.

OF THE LEADING NAVAL POWERS, APRIL 7, 1915.

France.	Germany.	Great Britain.	Greece.	Holland.	Italy.	Japan.	Norway.	Portugal.	Russia.	Spain.	Sweden.	Turkey.	United States.	Classes.
..	..	20	..	..	..	2	..	..	..	..	..	..	2	A*
4	21	17	..	..	5	4	..	..	4	2	..	1	8	A
9	..	10	2	..	..	4	..	..	2	..	..	..	11	B
11	20	36	..	..	8	11	..	..	8	..	..	..	12	C
3	15	..	3	9	4	3	4	1	3	1	12	2	..	D
..	1	9	1	..	4	..	..	..	1	..	..	..	4	E
15	3	12	..	..	3	9	..	..	4	2	1	..	6	F
7	5	23	..	..	3	..	..	..	..	..	..	1	5	G
1	..	16	..	..	2	..	..	..	..	1	..	..	..	H
9	19	31	1	6	2	14	..	1	7	1	..	1	13	I
5	9	12	..	..	9	4	2	3	..	3	..	..	..	J
..	..	13	..	..	3	2	..	..	..	..	..	..	3	K
4	..	15	..	..	10	1	..	..	..	7	5	3	..	L
4	..	84	4	..	..	4	..	..	10	..	..	..	8	M
17	108	77	2	8	10	..	3	2	22	..	..	4	26	N*
65	49	78	8	..	22	50	1	..	70	7	8	6	20	O
23	47	60	7	38	70	25	12	..	32	25	29	10	18	P
299	..	58	6	20	29	33	25	4	10	4	24	..	3	Q
76	33	88	2	8	20	13	4	1	37	..	7	..	38	S

II

OUR  
Estab



RING



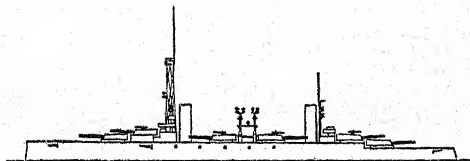
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# THE NAVIES OF THE WORLD



## ARGENTINA



### BATTLESHIPS.

#### A

**MORENO** . . . New York Co., C. 1914. L. 23.9.11. B. 9.7.10

**RIVADAVIA** . . Fore River Co., ,, 1914. ,, 23.8.11. ,, 25.5.10

Length, w.l. 577.5 ft.; o.a. 585 ft. Beam, 96 ft. Draught (mean), 27.5 ft.; (max.), 30 ft. Disp., 27,500/30,200 tons.

I.H.P. 39,500=22.5 kts. Coal cap., 1600/4000 tons. Oil, 650 tons.

Engines: Curtis turbines by Fore River Co. (3 shafts). Boilers, Babcock & Wilcox.

Trials: *Rivadavia*, I.H.P. 39,750=22.6 kts.

Armour: Krupp. Complete belt, 8 ft. wide, 12 in. amidships, tapering to 6 in. forward and 4 in. aft; lower edge amidships, 5 in.; lower deck side, 9 in. at bottom, 8 in. at top amidships, 5 in. forward; turrets, 12 in. to 9 in.; barbettes, 9 in.; battery, 6 in.; C.T., forward, 12 in.; aft, 9 in.; deck, 3 in. on slopes; main deck, 1.5 in.; funnels, to 15 ft. above spar deck, 1.5 in.

Armament: 12-12 in. (50 cal.) in pairs in turrets, two forward, No. 2 firing over No. 1, two diagonally amidships, two aft, No. 5 firing over No. 6; 12-6 in. (50 cal.) in battery; 16-4 in. (50 cal.), eight in pairs on turrets Nos. 2-5, two forward, two aft, four on superstructures. Torpedo tubes, 2-21 in. submerged on broadside. Compt. 960.



## COAST DEFENCE SHIPS.

D

**INDEPENDENCIA** . . . . . Birkenhead, 26.2.91  
**LIBERTAD** . . . . . Birkenhead, 11.12.90 (ex *Neuve de Julio*)

Length, w.l. 230 ft.; o.a. 240 ft. Beam, 44.4 ft. Draught (mean), 13 ft. Disp., 2336 tons.

I.H.P. 2780 = 14.2 kts. Coal cap., 230/340 tons.

Engines: 2 sets compound. Boilers, cylindrical.

Armour: Compound. Partial belt, 172 ft. long, 5 ft. wide, 8 in.; B.H. forward, 8 in.; aft, 6 in.; barbettes, 8 in.; turrets, 5 in. to 3 in.; C.T., 4 in.; deck, flat on belt, 2 in.

Armament: 2-9.4 in. (35 cal.) in turrets; 4-4.7 in. (40 cal.) in shields; 4-3 pr.; 2-1 pr.; 4 M. Torpedo tubes, 2-18 in. above water on broadside.

Compt. 230.

U

**ALMIRANTE BROWN** . . . Poplar, 1880. Reconstd., La Seyne, 1898

Length, 240 ft. Beam, 50 ft. Draught (mean), 20.5 ft. Disp., 4300 tons.

I.H.P. 4500 = 14 kts. Coal cap., 650 tons.

Armour: Compound. Partial belt, 9 in.; bulkheads, 7 in.; battery, 8 in.; deck, flat on belt, 1.5 in.

Armament: 10-5.9 in. (50 cal.), six in battery, four in shields above; 4-4.7 in. (50 cal.) in shields f. and a.; 8-3 pr.

Compt. 380.

U

**EL PLATA** . Birkenhead, 1875. **LOS ANDES** . Birkenhead, 1875

Length, 186 ft. Beam, 44 ft. Draught (mean), 9.5 ft. Disp., 1677 tons.

I.H.P. 750 = 9 kts. Coal cap., 120 tons.

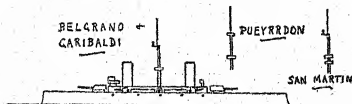
Armour: Iron. Complete belt, 6 in. to 3.5 in.; turret, 8 in. deck, 1 in.

Armament: 2-7.8 in. (old) with, in *El Plata* only, 2-3 pr.; 1 M

Compt. 120.

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## ARMoured CRUISERS.

## F

<b>GARIBALDI</b>	. . .	Sestri Ponente, 27.5.95 (ex <i>Giuseppe Garibaldi</i> )
<b>SAN MARTIN</b>	. . .	Leghorn, 25.5.96 (ex <i>Varese</i> )
<b>GENERAL BELGRANO</b>	. . .	Leghorn, 25.7.97 (ex <i>Varese II.</i> )
<b>PUEYRRREDON</b>	. . .	Sestri Ponente, 25.9.97 (ex <i>Giuseppe Garibaldi III.</i> )

Length, 328 ft. Beam, 59.7 ft. Draught (mean) 23.2 ft. Disp., 6773 tons. (*Belgrano* has Beam, 61.9 ft. Disp., 7069 tons.)

I.H.P. 12,820=24 kts. Coal cap., 600/1100 tons.

Engines: 2 sets 3 expans. *Garibaldi* and *Pueyrredon* by Ansaldo to Maudslay's designs; others by Hawthorn Guppy. Boilers, cylindrical (*Pueyrredon*, Belleville).

Trials: *Garibaldi*, I.H.P. 13,200=19.9 kts.; *San Martin*, I.H.P. 12,820=19.8 kts.; *General Belgrano*, I.H.P. 13,208=20.1 kts.; *Pueyrredon*, I.H.P. 13,696=19.9 kts.

Armour: Harvey in first two; Krupp in last two. Complete belt, 8.2 ft. wide, 5.9 in. amidships, 8.1 in. at ends; bulkheads, 5.9 in.; lower deck, side amidships, and battery, 5.9 in.; turrets and barbettes, 5.9 in.; C.T., 5.9 in.; deck, flat on belt, 2 in.

Armament: *Garibaldi* and *Pueyrredon*, 2-10 in. (40 cal.) in turrets f. and a.; 10-6 in. (40 cal.) in battery; 6-4.7 in. (40 cal.) in shields above battery. *Belgrano*, 2-10 in. (40 cal.); 14-6 in. (40 cal.), ten in battery, four above; 2-3 in. (12 pr.). *San Martin*, 4-8 in. (40 cal.) in pairs in turrets f. and a.; secondary guns as in *Garibaldi*. In all, 10 or 12-6 pr.; 10 or 12-1 pr.; 2 M. Torpedo tubes, 4-18 in. above water, broadside.

Compt. *San Martin*, 540; *Belgrano*, 520; others, 500.

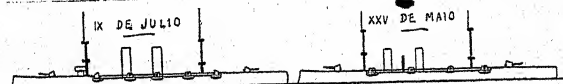
(See note on p. 263.)



## PROTECTED CRUISERS.

**BUENOS AIRES** . . . Elswick, 10.5.95 Sheathed and coppered  
 Length, p.p. 396 ft. ; w.l. 408 ft. ; o.a. 424 ft. Beam, 47.2 ft.  
 Draught (mean), 18 ft. ; (max.) 22 ft. Disp., 4500 tons.  
 I.H.P. 17,000=24 kts. Coal cap., 350/1000 tons.  
 Engines: 2 sets 3 expans. by Humphrys & Tennant. Boilers,  
 cylindrical.  
 Armour: Deck, 5 in. to 1.5 in. ; C.T., 6 in. ; shields to big guns,  
 4.5 in.

Armament: 2—8 in. (45 cal.) in shields f. and a. ; 4—6 in. (45 cal.)  
 and 6—4.7 in. (45 cal.) in shields on beam ; 16—3 pr. Torpedo  
 tubes, 5 above water, bow and broadside. Compt. 400.



**NUEVE DE JULIO** . . . . . Elswick, 1892  
 Length, p.p. 350 ft. Beam, 44 ft. Draught (mean), 19.5 ft.  
 Disp., 3500 tons.  
 I.H.P. 14,500=22.5 kts. Coal cap., 300/770 tons.  
 Armour: Deck, 4.5 in. to 1.7 in.

Armament: 4—6 in. (40 cal.) in shields f. and a. and on either  
 bow ; 8—4.7 in. (40 cal.) in shields amidships and on either  
 quarter ; 12—3 pr. ; 4—1 pr. Torpedo tubes, 5 above water,  
 bow and broadside. Compt. 320.

**VEINTE Y CINCO DE MAYO** . . . Elswick, 5.5.90. (ex *Nicochea*)  
 Length, p.p. 330 ft. Beam, 43 ft. Draught (mean), 16.5 ft.  
 Disp., 3200 tons.  
 I.H.P. 13,000=22 kts. Coal cap., 300/600 tons.  
 Armour: Deck, 4.5 to 1.7 in.  
 Armament: 2—8.2 in. (35 cal.) in shields f. and a. ; 8—4.7 in.  
 (40 cal.) in shields on beam ; 12—3 pr. ; 12—1 pr. Torpedo  
 tubes, 3 above water bow and broadside.  
 Compt. 300.

Shri KVSS Prasad Rao

Mr Tariq Ahmed Karim



## GUNBOATS.

## R

**PARANA** . . . Elswick, 28.4.08.**ROSARIO** . . . Elswick, 1.8.08

Length, p.p. 240 ft. ; o.a. 250 ft. Beam, 32 ft. Draught (mean), 7.5 ft. Disp., 1000 tons.

I.H.P. 2000=15 kts. Coal cap., 117 tons. Boilers, Yarrow.

Armour: Krupp. Partial belt, 4 in. ; deck, 1.5 to 1 in. ; C.T., 3 in.

Armament: 2-6 in. howitzers ; 6-3 in. (50 cal.) ; 8 M. Compt. 167.

## R

**PATAGONIA** . Trieste, 1885. Reconstructed, 1909. Sheathed

L., 220 ft. B., 32.9 ft. D. (mean), 12.7 ft. Disp., 1506 tons.

I.H.P. 2370=14 kts. Coal cap., 260/350 tons.

Armour: Deck, 1.5 in.

Armament: 1-6 in. forward ; 1-4.7 in. aft. ; 8-3 pr.

Compt. 210. (Used as Surveying Ship.)

## R

**URUGUAY** . Birkenhead, 1874.**PIEDRABUENA** . Birkenhead, 1874

L., 142.7 ft. B., 25.1 ft. D. (mean), 11.7 ft. Disp., 550 tons.

I.H.P. 475=11 kts. Coal cap., 90 tons. Sheathed.

Armament: 4-4 in. ; 2 M.

(Uruguay used as Surveying Ship ; Piedrabuena as Transport.)



## TORPEDO GUNBOATS.

## L

**PATRIA** . . . . . Birkenhead, 28.12.93

L., 250 ft. B., 30 ft. D. (mean), 10 ft. Disp., 1070 tons.

I.H.P. 5000=20.5 kts. Coal cap., 288 tons. Boilers, Locomotive.

Armament: 2-4.7 in. (40 cal.) ; 4-3 pr. ; 2-3 pr. ; 2 M. Torpedo tubes, 5 above water, bow and broadside. Compt. 100.

## L

**ESPORA** . . . . . Birkenhead, 22.4.90. Reconstructed, 1905

L., o.a. 210 ft. B., 25 ft. D. (mean), 8.5 ft. Disp., 615 tons.

I.H.P. 3000=18.5 kts. Coal cap., 100/130 tons. Boilers, Yarrow.

Armament: 2-3 in. (12 pr.) ; 5-3 pr. ; 2 M. Torpedo tubes, 5-18 in. above water, bow and broadside. Compt. 60.



## DESTROYERS.

Name.	Date.	Builder.	Length.	Bearn.	Draught.	Disp.	L.H.P.	Speed.	Bollers.	Engines.	Armament.	Coal.	Oil.	Compt.
<b>M *</b>			ft.	ft.	ft.	tns.		kts.				tns.	tns.	
<i>Santiago</i> .	b.	G	312.5	30.8	8.9	1230/	30,000	32	S	S	{ 3-4 in.	..	340	..
<i>San Luis</i> .						1425					{ 3-21 in.			
<i>Tucuman</i> .											{ tubes.			
<i>Mendoza</i> .														
<i>Rioja</i> .	11	N	283.7	23.2	6.8	935/	18,000	32	W	R	{ 4-4 in.	252	80	110
<i>Salta</i> .						1162					{ 50 cal.;			
<i>San Juan</i> .											{ 4-21 in.			
<i>Cordoba</i> .	11	S	295	29.5	7.6	876/	19,000	34.7	S	S	{ tubes.	285	50	110
<i>La Plata</i> .						1052								
<i>Jujuy</i> .	11	G	288.2	26.8	8.5	904/	22,000	32	S	C		246	100	110
<i>Catamarca</i>						1283								
<b>N</b>														
<i>Misiones</i> .	96	Y	190	19.5	7.3	280	4,200	27	Y	T	{ 1-14 pr.;	80	..	54
<i>Corrientes</i> .											{ 3-6 pr.;			
<i>Entre Rios</i>											{ 2M. 3-18			
											{ in. tubes.			

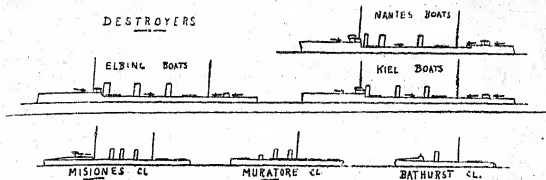
NOTE.—*Santiago* class will probably be taken over by Germany, *Mendoza* class are said to have been taken over by France.

## TORPEDO BOATS.

<b>O</b>														
<i>Muratore</i> .	31	T	150	14.5	5.3	110	1,500	24.5	T	T		22	..	27
<i>Comodoro Py</i> .	30	T	150	14.5	5.3	110	1,500	24.5	T	T		22	..	27
<b>P</b>														
<i>Bathurst</i> .	50	Y	150	13.5	6	85	1,200	24	L	T	{ 2-3 pr.;	15	..	15
<i>Jorge</i> .											{ 1 M.			
<i>King</i> .											{ 3 tubes.			
<i>Buchardo</i> .														
<i>Thorne</i> .	82	Y	100	12.5	6	52	600	20	L	T	{ 1 M.	10	..	14
<i>Pinedo</i> .											{ tubes.			
<i>Alerta</i> .														
<i>Centella</i> .														
<i>Ferrer</i> .	90	Y	60	9.2	3	16	230	17	L	T	{ 1 M.	1.2	..	10
<i>Enrique Py</i>											{ tube.			
<b>Q</b>														
<i>Nos. 1-3</i> .	80	Y	60	9.2	3	16	230	17	L	T	{ 1 M.	1.2	..	10
<i>Nos. 9 and 10</i> .	81	T	60.5	7.5	3.5	16	320	17	L	T	{ tube.	..	..	..

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim



NOTES ON TORPEDO CRAFT.

The *Corrientes* class have 5 in. to 8 in. plating to boiler and engine rooms. Builders: N=De la Brosse & Fouché, Nantes; S=Schichau, Elbing; G=Germania, Kiel; Y=Yarrow, Poplar; T=Thornycroft, Chiswick. Boilers: W=White-Forster; S=Schultz; Y=Yarrow; T=Thornycroft; L=Locomotive. Engines: R=Rateau turbines; S=Schichau turbines; C=Curtis turbines (A. E. G.); T=Reciprocating triple-expansion.

TRAINING  
SHIP.



X

**PRESIDENTE SARMIENTO** . . . Birkenhead, 31.8.97. Sheathed  
Length, p.p. 265 ft. Beam, 43 ft. Draught (mean), 18.5 ft. Disp.,  
2750 tons.

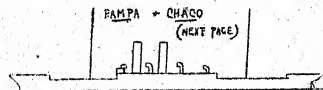
I.H.P. 2000=13 kts. Coal cap., 300 tons.

Engines: compound. Boilers, Niclausse and cylindrical.

Armament: 5-4.7 in. (50 cal.); 2-12 pr.; 4-6 pr.; 4-3 pr.;

4 M. Torpedo tubes, 2-18 in. above water, bow and stern.

Compt. 400.



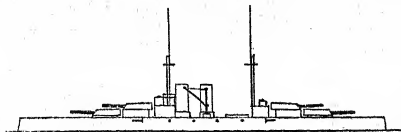
## MISCELLANEOUS.

Ship.	Date.	Length.	Beam.	Disp.	I.H.P.	Speed.	Service.
Y							
		ft. in.	ft.			kts.	
Pampa .	'95	390 0	46	8700	3500	14	Transports.
Chaco .	'95	367 5	46	8700	3500	14	
Guardia	'90	367 6	41	6500	1850	14	
Nacional							
Republica	'75	106 0	30	400	430	9.5	River transports.
Constitucion	'75	106 0	30	400	430	9.5	
Maipu .	'80	253 9	30	1100	1900	14	Torp.school.
Argentino	'82	91 9	13	80	..	12	Customs.
Azoparde	'84	134 0	23	300	600	12	Transport and tug.
				B.M.			
Golondrina .	'89	98 6	18	95	170	8	Despatch boats.
Gaviota .	'88	98 6	18	120	230	8	
Resguardo .	'84	100 0	18	115	168	9	
Vigilante .	'84	100 0	18	115	168	9	
Bahia Blanca	'88	98 6	18	95	170	8	Tugs.
Albatros .	'01	..	..	66	..	8.5	
Delfin .	'00	..	..	38	..	8	
Penguin .	'00	..	..	38	..	8	
Techuelche .	'00	..	..	310	..	11.5	Steam water tank.
Fueguino .	'00	..	..	310	..	11.5	
Petrel .	'00	..	..	44	..	7.5	
Cormoran .	'00	..	..	44	..	7.5	
Bermejo .	'76	106 0	30	400	430	9.5	Crane stmr.
Pilcomayo .	'75	106 0	30	400	430	9.5	
Primero de Maio	'93	200 0	30	879	93 nom.	..	..
Teuco .	..	..	..	..	..	9	River steamers.
Limay .	..	..	..	..	..	9	
General Paz	..	..	..	..	..	9	
Alvear .	..	..	..	..	..	9	
Caguayu .	..	..	..	..	..	9	Mining boat.
Sayhulque .	'00	125 0	23	218	227	11	
Inacayal .	'00	125 0	23	218	230	11	
Namuncura	'00	..	..	146	..	10	
Fulton .	'96	..	..	100	150	10	

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim

## AUSTRIA-HUNGARY



## BATTLESHIPS.

## A

<b>SZENT ISTVAN</b>	Fiume, C.	—	L. 17.1.14.	B. 29.1.12
<b>PRINZ EUGEN</b>	Trieste, „	6.14.	„ 30.11.12.	„ 16.1.12
<b>TEGETTHÖFF</b>	Trieste, „	14.7.13.	„ 21.3.12.	„ 24.9.10
<b>VIRIBUS UNITIS</b>	Trieste, „	6.10.12.	„ 24.6.11.	„ 23.7.10

Length, p.p. 496.7 ft. ; o.a. 524.9 ft. Beam, 89.6 ft. Draught (mean), 26.8 ft. Disp., 20,010 tons.

I.H.P. 24,600=20 kts. Coal cap., 886/1968 tons.

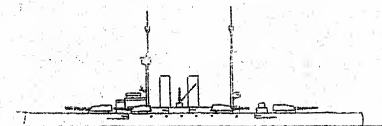
Engines: Parsons turbines. Boilers, Yarrow.

Trials: *Viribus Unitis*, I.H.P. =20.9 kts.

Armour: Special chrome-nickel steel. Complete belt, about 15 ft. wide, 11 in. amidships, 4.7 in. at ends; main deck side, 7.8 in. amidships, 4.7 in. forward; turrets and barbettes, 11 in.; battery, 6.4 in.; ford. C.T., 11 in. to 9.8 in.; after C.T., 9.8 in.; range-finding towers, 6.4 in.

Armament: 12—12 in. (45 cal.) in threes in turrets, two forward and two aft, No. 2 firing over No. 1, and No. 3 over No. 4; 12—5.9 in. (cal. 50) in battery; 18—11 pr.; 2—11 pr. short; 2—3 pr.; 3 M. Torpedo tubes, 4 submerged, bow, stern and broadside.

Compt. 1000.



## B

<b>ZRINYI</b> . . . . .	Trieste	12.4.10	Laid down,	15.11.08
<b>RADETSKY</b> . . . . .	„	3.7.09	„	26.11.07
<b>ERZHERZOG FRANZ FERDINAND</b>	„	30.9.08	„	12.9.07

Length, p.p. 429.8 ft. ; o.a. 456 ft. Beam, 82 ft. Draught (mean), 26.6 ft. Disp., 14,268 tons.

I.H.P., 19,730 = 20 kts. Coal cap., 738/1329 tons.

Engines : 2 sets 3 expans. by builders. Boilers, Yarrow.

Trials : *Zrinyi*, I.H.P. = kts. ; *Radetsky*, I.H.P. = kts. ; *Erzherzog Franz Ferdinand*, I.H.P. 20,320 = 20.6 kts.

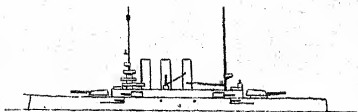
Armour : Krupp. Complete belt, 7.5 ft. wide, 9 in. amidships, 3.9 in. at ends ; bulkheads, 5.9 in. ; lower deck side, 5.9 in. amidships, 2.4 in. forward ; main turrets, 9.8 in. ; barbettes, 9.4 in. ; secondary turrets and barbettes, 7.9 in. ; with bases behind battery armour, 3.8 in. ; battery, 4.7 in. ; con. tower, 9.8 in. ; sig. tower aft, 4.7 in. ; range-finding towers amidships, 4.7 in. ; deck, sloping, 1.9 in.

Armament : 4-12 in. (45 cal.) in pairs in turrets f. and a. ; 8-9.4 in. (45 cal.) in pairs in turrets, two on each beam ; 20-3.9 in. (50 cal.) in battery, sixteen on main deck, four on upper deck ; 6-11 pr. ; 2-11 pr. short ; 2-3 pr. ; 2 M. Torpedo tubes, 3-18 in. submerged, broadside and stern.

Compt. 857.

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



C

ERZHERZOG FERDINAND MAX	}	. . . Trieste, 21.5.05.	Laid down, 1903
ERZHERZOG FRIEDRICH	. . .	" 30.4.04.	" 1902
ERZHERZOG KARL	. . .	" 4.10.03.	" 1901

Length, p.p. 390.4 ft. Beam, 72.2 ft. Draught (mean), 24.6 ft.  
Disp., 10,432 tons.

I.H.P. 17,754=20 kts. Coal cap., 541/1294 tons.

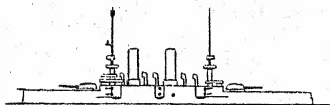
Engines: 2 sets 3 expans., by builders. Boilers, Yarrow.

Trials: *Erzherzog Ferdinand Max*, I.H.P. 18,348=20.7 kts.;  
*Erzherzog Friedrich*, I.H.P. 18,090=20.5 kts.; *Erzherzog Karl*, I.H.P. 18,136=20.3 kts.

Armour: Krupp. Partial belt, 8.2 ft. wide, 8.3 in. at top, 6.7 in. at bottom; belt forward, 2.5 in.; bulkheads, 7.9 in.; lower deck side amidships, 4.7 in.; main turrets, 8.7 in.; barbettes, 9.4 in.; secondary turrets, 5.9 in.; battery, over 7.6 in. guns, 6.7 in., elsewhere 5.1 in.; con. tower, 8.7 in.; deck, 3 in. aft, 2.4 in. elsewhere.

Armament: 4-9.4 in. (40 cal.) in pairs in turrets f. and a.; 12-7.6 in. (42 cal.), eight in battery, four in turrets on upper deck; 12-11 pr.; 2-11 pr. short; 6-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 748.



## D

<b>BABENBERG</b>	Pola,	4.10.02.	Ld. dn.	5.00.	Reconstructed, 1911/12
<b>ARPAD</b>	Trieste,	11.9.01.	"	11.99.	" "
<b>HABSBURG</b>	"	9.9.00.	"	2.99.	" 1910/11

Length, p.p. 354.3 ft. ; o.a. 390.4 ft. Beam, 65.6 ft. Draught (mean), 23.3 ft. Disp., 8208 tons.

I.H.P. 13,810=19 kts. Coal cap., 492/827 tons.

Engines: 2 sets 3 expans. by Stabilimento Tecnico, Trieste. Boilers, Belleville.

Trials: *Bubenberg*, I.H.P. 16,008=19.7 kts. ; *Arpad*, I.H.P. 15,780=19.6 kts. ; *Habsburg*, I.H.P. 14,788=19.6 kts.

Armour: Krupp. Partial belt about 8 ft. wide, 8.7 in. to 8.2 in. at top, 7.1 in. to 6.4 in. at bottom; belt forward, 1.6 in.; bulkheads, 7.9 in.; lower deck side amidships, 3.9 in.; turrets, 7.9 in.; barbettes, 8.2 in.; casemates, 5.3 in.; con. tower, 7.9 in.; sig. tower aft, 3.9 in.; deck, flat on belt amidships, sloping at ends, 2.6 in.

Armament: 3-9.4 in. (40 cal.), two in turret forward, one in turret aft; 12-5.9 in. (40 cal.) in 6 double-decked casemates; 10-11 pr.; 2-11 pr. short; 8-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 653.

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



## D

<b>BUDAPEST</b> . . . . .	San Rocco, 27.4.96	Laid down, 1894
<b>MONARCH</b> . . . . .	Pola, 9.5.95	" 1893
<b>WIEN</b> . . . . .	San Rocco, 7.7.95	" "

Length, p.p. 305 ft. Beam, 55.7 ft. Draught (mean), 21 ft.  
Disp., 5512 tons.

I.H.P. 8384=17 kts. Coal cap., 492 tons.

Engines: 2 sets 3 expans. by Stabilimento Tecnico, Trieste.  
Boilers, *Budapest*, Belleville; others, cylindrical.

Armour: Harvey. Partial belt, 7 ft. wide, 10.6 in. at top and 7.1 in. at bottom amidships, tapering to 4.7 in. at top and 3.9 in. at bottom at bow; B.H. aft, 7.9 in.; lower deck side amidships, 2.4 in.; barbettes, 9.8 in.; turrets, 7.9 in.; battery, 3.2 in.; C.T., 7.9 in.; sig. tower aft, 2.4 in.; deck, flat on belt, 1.6 in. to 1.2 in.; deck aft, 2.4 in.

Armament: 4-9.4 in. (35 cal.) in pairs in turrets f. and a.; 6-5.9 in. (40 cal.) in battery; 2-11 pr. short; 12-3 pr.; 1 M. Torpedo tubes, 4 above water.

Compt. 441.

## D

## KRONPRINZ ERZHERZOG RUDOLF . . . Pola, 1887

Length, 295 ft. Beam, 62.3 ft. Draught (mean), 24.3 ft. Disp., 6790 tons.

I.H.P. 6410=16 kts. Coal cap., 590/640 tons.

Engines: 2 sets 3 expans. by Stabilimento Tecnico, Trieste.  
Boilers, cylindrical.

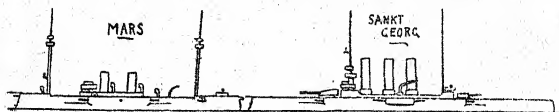
Armour: Steel. Short partial belt and lower deck side, 12 in.; B.H., 10 in.; barbettes, 11 in.; deck, flat on belt, 2.7 in.

Armament: 3-12 in. (35 cal.), two separately in forward athwartship barrette, one in barrette aft; 6-4.7 in.; 5-3 pr.; 2-1 pr.; 2 M. Torpedo tubes, 4 above water.

Compt. 454.

(Local Defence Ship for Gulf of Cattaro.)





D

**MARS** (ex *Tegetthoff*) . . Trieste, 1878. Reconstructed, 1891-3  
Length, 286.8 ft. Beam, 62.3 ft. Draught (mean), 25 ft. Disp.,  
7380 tons.

I.H.P. 7890=16 kts. Coal cap., 640 tons.

Engines: 2 sets 3 expans. by Schichau. Boilers, cylindrical.

Armour: Iron. Belt from stern to within 32 ft. of bow, 14.5  
in. to 8.8 in.; B.H., 12 in.; central battery, 14.5 in.; deck,  
flat, 1.5 in.

Armament: 6-9.4 in. (35 cal.) in battery; 5-5.9 in. (35 cal.);  
13-3 pr.; 2 M. Torpedo tubes, 4 above water.

Compt. 574.

(Local Defence Ship at Pola.)

#### ARMoured CRUISERS.

F **SANKT GEORG** . . . Pola, 8.12.03

Length, p.p. 383.9 ft.; o.a. 402.5 ft. Beam, 61.8 ft. Draught  
(mean), 21.3 ft. Disp., 7185 tons.

I.H.P. 14,795=22 kts. Coal cap., 900 tons.

Engines: 2 sets 3 expans. by Stabilimento Tecnico, Trieste.  
Boilers, Yarrow.

Trials: I.H.P. 15,062=22 kts.

Armour: Krupp. Partial belt, 8.3 in. at top, 6.5 in. at bottom;  
bulkheads, 7.5 in.; belt to bow, 1.9 in.; lower deck side  
amidships, 3.5 in.; main turret, 7.9 in.; barbette, 8.3 in.;  
secondary turret, 5.5 in.; casemates for 7.6 guns, 5.9 in.; for  
5.9 in. guns, 5.3 in.; C.T., 7.9 in.; range-finding towers, 3.9  
in.; deck, flat on belt, 2.6 in.

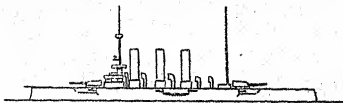
Armament: 2-9.4 in. (40 cal.) in turret forward; 5-7.6 in.  
(42 cal.), one in turret aft, four in casemates amidships;  
4-5.9 in. (40 cal.) in casemates abreast of turrets; 9-11 pr.;  
2-11 pr. short; 10-3 pr.; 2 M. Torpedo tubes, 2-18 in.  
submerged, broadside.

Compt. 628.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

F

**KAISER KARL VI.** . . . San Rocco, 5.10.98. Laid down, 1896

Length, p.p. 367.4 ft. Beam, 56.4 ft. Draught (mean), 20.3 ft.  
 Disp., 6200 tons.

I.H.P. 11,835=20 kts. Coal cap., 817 tons.

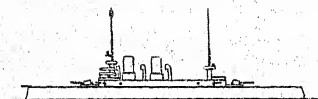
Engines: 2 sets 3 expans. by Stabilimento Tecnico, Trieste.  
 Boilers, Belleville.

Trials: I.H.P. 12,725=20.8 kts.

Armour: Harvey and nickel. Partial belt, 9.6 ft. wide, 8.7 in. at top, 6.7 in. at bottom; bulkheads, 7.9 in.; lower deck side amidships, 2.5 in.; turrets and barbettes, 7.9 in.; bases, 4.7 in.; casemates, 3.1 in.; C.T., 7.9 in.; deck, flat on belt, 1.5 in., sloping at ends, 2.4 in.

Armament: 2-9.4 in. (40 cal.) in turrets f. and a.; 8-5.9 in. (40 cal.) in double casemates, one at base of each barbette, one sponsoned on each beam; 2-11 pr. short; 16-3 pr.; 1 M. Torpedo tubes, 2 above water, broadside. Compt. 546.

F

**KAISERIN UND KÖNIGIN MARIA THERESIA** . . San Rocco, 4.98.  
 Reconstructed, 1908

Length, p.p. 351 ft. Beam, 52.5 ft. Draught (mean), 21.4 ft.  
 Disp., 5118 tons.

I.H.P. 8780=19 kts. Coal cap., 650/728 tons.

Engines: 2 sets horiz. 3 expans., by Stabilimento Tecnico, Trieste.  
 Boilers, cylindrical.

Armour: Steel. Partial belt, lower deck side, amidships, and barbettes, 3.9 in.; casemates, 3.1 in.; C.T., 2 in.; deck, 2.2 in.

Armament: 2-7.6 in. (42 cal.) in shields on original barbettes f. and a.; 8-5.9 in. (35 cal.) in double casemates at corners of superstructure; 2-11 pr. short; 16-3 pr.; 1 M. Torpedo tubes, 4-18 in. above water, bow, stern and broadside.

Compt. 504.

## SCOUTS.

I

— Building (?)

— ”

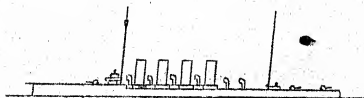
— ”

Disp., 4800 tons.

Speed, 29 kts.

Armament: 2-6 in. ; — 3-9 in.

(See also p. 44.)



K

NOVARA . . . .	Fiume, 15.2.13.	Laid down, 10.11	
HELGOLAND . . . .	Fiume, 23.11.12	„	1.4.11
SAIDA . . . . .	Fiume, 11.12	„	1.4.11
ADMIRAL SPAUN . .	Pola, 30.10.9	„	1.5.08 Ests. 1907

Length, p.p. 411 ft. ; o.a. 428.5 ft. Beam, 42 ft. Draught (mean), 15.2 ft. Disp., 3384 tons.

I.H.P. 19,725=26 kts. Coal cap., 443/837 tons.

Engines: Parson's turbines by Stabili. Tecnico, Trieste. Boilers, Yarrow.

Trials: *Ad. Spaun*, I.H.P. 24,660=27 kts.

Armour: Krupp. Partial belt, 2-4 in. ; bulkheads, 2 in. ; deck, 8 in.

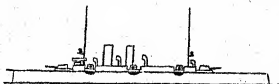
Armament: 9-3-9 in. (*Ad. Spaun*, 7 only); 1 M. Torpedo tubes, 2-18 in. above water, broadside.

Compt. 300.

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## CRUISERS.

**I KAISER FRANZ JOSEPH I.** . San Rocco, 18.5.89. Reconstd. 1906

Length, p.p. 321.1 ft. Beam, 49.2 ft. Draught (mean), 18.7 ft.

Disp., 3937 tons.

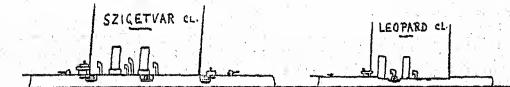
I.H.P. 7890=19 kts. Coal cap., 650 tons.

Engines : 2 sets horiz. 3 expans. Boilers, cylindrical.

Armour : Deck, 2.2 in. ; turrets and barbettes, 3.5 in.

Armament : 2-5.9 in. (40 cal.) in turrets f. and a. ; 6-5.9 in. (35 cal.) in shields ; 2-11 pr. short ; 16-3 pr. ; 1 M. Torpedo tubes, 4-14 in., above water. Compt. 441.

(Kaisrin Elisabeth, of this class, destroyed 1914.)

**J SZICETVAR** . . . Pola, 29.10.00**ASPERN** . . . Pola, 3.5.09

Length, p.p. 313.5 ft. Beam, 39.3 ft. Draught (mean), 14.2 ft.

Disp., 2363 tons.

I.H.P. 7090=20 kts. Coal cap., 463 tons.

Engines : 2 sets 3 expans. by Stabili. Tecnico. Boilers, Yarrow.

Armour : Deck, 2 in. to 1.2 in.

Armament : 8-4.7 in. (40 cal.) in shields ; 10-3 pr. ; 1 M. Torpedo tubes, 2-18 in., above water. Compt. 305.

(Zenta, of this class, sunk 1914.)

**L LEOPARD** . Elswick, 1885      **PANTHER** . Elswick, 1886  
Length, 224 ft. Beam, 33 ft. Draught (mean), 14.2 ft. Disp., 1506 tons.

I.H.P. 5920=18 kts. Coal cap., 200/295 tons.

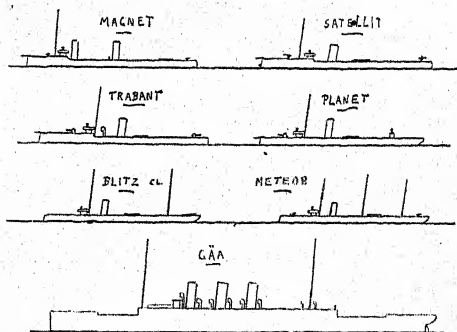
Boilers: Cylindrical.

Armament : 4-11 pr. ; 10-3 pr. Torpedo tubes, 4 above water. Compt. 185.

## TORPEDO GUNBOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
L			ft.	ft.	ft.	tons.		kts.			tns.	
Magnet .	'96	E	219.8	26.9	10.8	502	4930	25	6-3 pr.	3	104	..
Satellit .	'93	E	219.8	26.6	9.2	532	3945	23	1-11 pr. ; 8-3 pr.	3	114	84
Trabant .	'90	T	219.8	26.2	7.9	532	3450	20	2-11 pr. ; 8-3 pr.	3	107	84
Planet .	'89	J	210	23	8.2	472	3450	20	2-11 pr. ; 8-3 pr.	3	10	84
Blitz .	'88	E	193.8	22.3	6.9	354	2565	21	8-3 pr.	2	118	61
Komet .	'88	E	"	"	"	"	"	"	"	"	"	"
Meteor .	'87	E	187	22.3	8.2	344	2565	21	8-3 pr.	2	118	61

NOTES. — Builders: E = Elbing; T = Trieste; J = Jarow.  
*Magnet* has Thornycroft boilers, others locomotive.



Torpedo Depot Ship GÄA (see p. 21).

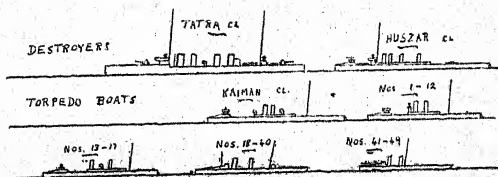
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## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Engines.	Armament.	Coal.	Oil.	Compt.
<b>M</b>			ft.	ft.	ft.	tns.		kts.				tns.	tns.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tatra	'12	F	266	25.6	8.2	787	16,780	32.5	Y	T	2-3.9 in.; 6-11 pr.; 2-18 in. tubes.	..	..	..
Balaton	'12													
Csepel	'12													
Lika	'13													
Orjen	'13													
Triglav	'13													
<b>N</b>														
Huszar	'05	Y												
Ulan	'06	T												
Streiter	'06	T												
Wildfang	'06	T												
Scharfschütze	'07	T												
Uskoke	'07	T												
Turul	'08	F	219.8	20.5	6	394	6,000	23	Y	R	1-11 pr.; 7-3 pr.; 2-18 in. tubes.	90	..	65
Pandur	'08	F												
Dinara	'09	F												
Velebit	'09	F												
Reka	'09	F												
Csikoz	'09	F												

NOTES.—Builders: Y = Yarrow, Poplar; T = Trieste; F = Fiume.  
Boilers: Y = Yarrow. Engines: T = Turbine; R = Reciprocating.



## TORPEDO BOATS—I. CLASS.

Name.	Where built.	Lauchd.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Arma-ment.	Boilers.	Fuel Cap.
o			ft.	ft.	ft.	tns		kts.			ton
27 boats . Nos. 50-76 }	..	bg.	189	18.7	5	246	4930	28 {	2-11 pr. 2 t.t.	} Y	..
Kaiman .	Poplar	'05	180.6	18.5	4.3	200	3000	28 {	4-3 pr. Q.; 2 t.t.	} Y	..
Anaconda	Trieste	'06									
Alligator	Trieste	'06									
Krokodil	Trieste	'06									
Wal .	Trieste	'06									
Seehund .	Trieste	'06									
Delphin .	Trieste	'07									
Narwal .	Trieste	'07									
Hal .	Trieste	'07									
Möwe .	Trieste	'07									
Schwalbe	Trieste	'07									
Pinguin .	Trieste	'07									
Drache .	Trieste	'07									
Greif .	Trieste	'07									
Triton .	Fiume	'08									
Hydra .	Fiume	'08									
Skorpion	Fiume	'09									
Phönix .	Fiume	'09									
Krake .	Fiume	'09									
Polyp .	Fiume	'09									
Echse .	Fiume	'09									
Molch .	Fiume	'09									
Kormoran	Fiume	'09									
Alk .	Fiume	'09									
(12) 1-12 .	and to Fiume	'10	142	14.3	4.7	108	2400	28 {	2-3 pr. Q.; 2 t.t.	} Y	..
(4) 13-16 .	Poplar	'98	150	15	7.6	115	1800	26	2-3 pr. Q.; 1 t.t.	} Y	30
(1) 17 .	..	'99									
(1) 18 .	Elbing	'96	147	14.9	7.10	107	1800	26	2-3 pr. Q.; 1 t.t.	} Y	30
		'96	150	17.4	8.10	134	1800	26			
<b>P</b>											
(17) 20-32, 36 and 37, 39 and 40	..	'86 to '92 '87	128	14.9	3.3	78	1000	19	2-1 pr. Q.; 1 t.t.	} Y	28
(3) 44, 45, 49	Pola	'91	118	14.5	3.3	64	700	19			

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## SUBMARINES.

Official Numbers. S	Date.	Builder.	Length.	Beam.	Disp. above and below.	I. H. P. above and below.	Speed above and below.	Armament.	Compt.
U. 9-11 . . .	bdg.	G	ft.	ft.	tons	tons	kts.		
U. 7-8 . . .	'13	G	..	..	685-800	..	..	..	..
U. 5-6 . . .	'09	W	105	13.9	233-270	493-227	11.4-10	2-18 in. bow	12
U. 3-4 . . .	'08	G	142	12.3	233-295	502-316	12-8.6	..	17
U. 1-2 . . .	'08-'09	P	100	11.5	217-246	709-197	12-7.3	3-18 in.	14
—	'12	T	167.3	16.3	392-	690-434	12.5-8	G	24

NOTES.—Builders: P=Pola D.Y., Lake type; W=Whitehead, Fiume, Holland type; G=Germania, Kiel; T=Toulon (this was the French *Curie*, sunk in 1914 and raised).

## SUBMARINE DEPÔT SHIPS.

W VULKAN . . . . . Fiume, 1910

Length, 210 ft. Beam, 32 ft. Draught, . Disp., 975 tons.  
I.H.P. 2367=15.5 kts. 2 sets Diesel engines.  
Armament: 4-11 pr.

W PELIKAN . . . . . Elbing, 22.3.91

Length, 278.9 ft. Beam, 39.3 ft. Draught, 15.5 ft. Disp., 2394 tons.

I.H.P. 3940=18 kts. Coal cap., 700 tons.

Armament: 2-11 pr.; 8-3 pr.

(Carries 36 torpedoes. Has workshops for general repairs.)  
Compt. 196.

## TORPEDO DEPÔT SHIP.

W GAA . Stettin, 1891. (ex *Don*, ex *Fürst Bismarck*. Bought from Russia, 1909)

Length, 502 ft. Beam, 50.9 ft. Draught, 23.3 ft. Disp., 13,000 tons.

I.H.P. 16,000=20 kts.

Armament: 4-4.7 in.; 4-11 pr.

2793



## TRAINING SHIPS.

**X CUSTOZA** . . . Trieste, 1872. Reconstd. 1895 (*ex* battleship)  
 Length, 302.2 ft. Beam, 58.1 ft. Draught, 24.6 ft. Disp.,  
 7000 tons.  
 I.H.P. 4345=14 kts. Coal cap., 570 tons.  
 Armour: Iron. Complete belt, 11.6 ft. wide, 9 to 5 in.; bat-  
 tery, 7 in. to 6 in.; bulkhead, 6 in.  
 Armament: 8-10.2 in. (old); 6-14 pr.; 7-3 pr.; 2-1 pr.  
 Torpedo tubes, 4-14 in. above water. Compt. 560.  
 (School Ship for Cadets.)

**Z ADRIA** . . . Trieste, 1872 (*ex Rudetzky*). Hulk  
 Disp., 3375 tons.  
 Armament: 3-5.9 in.; 3-11 pr.; 1-1 pr.; 3 M.  
 (Gunnery School Ship.)

**X SEBENICO** . . . Pola, 1882  
 Length, 187 ft. Beam, 26.2 ft. Draught (mean), 12 ft. Disp.,  
 875 tons.  
 I.H.P. 1880=14 kts. Coal cap., 200 tons.  
 Armament: 2-4.7 in.; 8-3 pr.; 2-1 pr.; 2 M.  
 (Tender to *Adria*.)

**X SPALATO** . . Trieste, 1879. **ZARA** . . Pola, 1879  
 Length, 180.4 ft. Beam, 26.2 ft. Draught (mean), 12 ft. Disp.,  
 827 tons.  
 I.H.P. 1200=14 kts. (*Zara* reboilered, 1895.)  
 Armament: *Spalato*, 2-4.7 in.; 8-3 pr.; 2-1 pr.; 3 M. *Zara*,  
 2-14 pr.; 1-11 pr.; 4-3 pr.; 3 M.  
 (*Spalato*, tender to *Adria*; *Zara*, tender to *Alpha*.)

**Z ALPHA** . . . 1857 (*ex* wooden frigate). 1318 tons  
 (Torpedo School Ship.)

**Z SCHWARZENBERG** (*ex* wooden battleship). 3375 tons  
 Armament: 4-11 pr.; 2-3 pr.  
 (Training Ship for Boys.)

**Z DONAU** . . . . Pola, 1892. Composite built  
 Disp., 2300 tons.  
 Armament: 6-4.7 in.; 4-14 pr.; 1-11 pr.; 3 M.  
 (Tender to *Schwarzenberg*.)

**X ALBATROS** . . Pola, 1873. **NAUTILUS** . . Pola, 1873  
 Length, 150.7 ft. Beam, 26.2 ft. Draught, 11.2 ft. Disp., 562 tons.  
 I.H.P. 400=9.5 kts. Coal cap., 60 tons.  
 Armament: 1-11 pr.; 2-3 pr.; 1 M.  
 (Tenders to *Schwarzenberg*.)

**Z GAMMA**.  
 Disp., 2390 tons.  
 (Mining and Telegraph School Ship.)

**X MIRAMAR** . . . . London, 1872. Paddle steamer  
 Length, 269 ft. Beam, 32.7 ft. Draught (mean), 14 ft. Disp., 1800 tons.  
 I.H.P. 2000=17 kts. Coal cap., 300 tons.  
 Armament: 2-14 pr.  
 Compt. 160. (Imperial Yacht.)

**R LUSSIN** . . . . Trieste, 1883  
 Length, 200 ft. Beam, 26.2 ft. Draught (mean), 12 ft. Disp., 984 tons.  
 I.H.P. 900=14 kts.  
 Armament: 2-5.9 in.; 1-11 pr.; 7 M. Torpedo tubes, 2.  
 Compt. 154. (Stationary Ship.)

**X LACROMA** . . . . 1887 (*ex* Cruiser *Tiger*)  
 Length, 233 ft. Beam, 32.9 ft. Draught, 15.3 ft. Disp., 1655 tons.  
 I.H.P. 5920=18 kts.  
 Armament: 6-3 pr.  
 Compt. 177. (Yacht.)

**X DALMAT** . . . . 1896  
 Length, 134.5 ft. Beam, 20 ft. Draught, 6.9 ft. Disp., 256 tons.  
 I.H.P. 320=12 kts.  
 Compt. 22.  
 (Headquarters at Zara.)

Name.	Date.	Length. ft.	Beam. ft.	Disp.	Speed. kts	Guns.	
<b>Y</b>							
Taurus . . .	'04	209.7	22.6	1280	15	4-3 pr.	{ Headqrs. at Constanti- nople
Fantasie . . .	'58	177.1	16.5	325	13	..	{ Yacht
Cyclop . . .	'71	229.6	29.6	2127	11	2-14 pr.	{ Workshop
Vetsa . . .	'92	288.7	37.5	3820	15	..	{ Oil trans- ports
Herkules . . .	'11	210	33.7	1460	15	..	{
Etelka . . .	..	..	..	2350	..	..	{
Aurora . . .	'73	190.5	32.9	1320	11	2 M.	{
Delta . . .	'71	..	..	..	..	..	{
Salamander . . .	'91	130	25.9	264	10	2-3 pr.	{ Mining ships
Dromedar . . .	'91	105	17.7	172	10	2-3 pr.	{
Basilisk . . .	'03	146.3	26	310	11	4 M.	{
Eta . . .	'77	170.6	26.2	542	11	..	{ Surveying ship
Nymphe . . .	'94	88.6	22	226	9	..	{
Najade . . .	'91	157	25.6	546	9	..	{ Tank vessels
Nixe . . .	'04	88.6	22	246	10	..	{
Pluto . . .	'97	82	17.4	98	11	..	{
Gigant . . .	'89	108	21	255	11	..	{ Pump vessels
Hippos . . .	'88	98.4	15.7	96	12	..	{
Buffel . . .	'88	98.4	15.7	96	12	..	{ Tugs.
Feuerspeier . . .	..	..	..	..	..	..	{ Hulk
Don Juan } d'Austria }	'75	240.3	50	3500	..	..	{ Torpedo-boat Headqrs.
Kaiser Max . . .	'75	240.3	50	3500	..	..	{ Headqrs. at Teodo
Vulkan . . .	'75	240.3	50	3500	..	..	{ Workshop
Bellona . . .	..	..	..	5720	..	..	{ Headqrs. for reserve ships
Kronprinzessin } Erzherzogin Stephanie }	'87	295	55.7	6870	..	..	{ Hulks
Ferdinand Max . . .	'65	262	52.5	5060	..	..	{
Beta . . .	..	..	..	..	..	..	{
Saida . . .	'74	232	42.5	2400	..	..	{
Pola . . .	'70	167.3	29.5	900	..	..	{ Mine store- ships
Sansego . . .	'61	111.5	23	345	..	..	{
Achille . . .	'74	307	33	1904	12	..	{
Almissa . . .	'93	207	29	883	12	..	{ Hospital ships
Maria Theresia . . .	'83	374	39	3056	12	..	{
2 ships . . .	bdg.	429.8	57.1	..	14	..	{ Colliers, 7000 tons each

KVSS Prasad Rao

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## MONITORS.

## V 2 ships . . . . . 1914 (?)

Length, 190.3 ft. Beam, 33.8 ft. Draught, 4.3 ft. Disp., 527 tons.  
I.H.P. 1480=12 kts.

Armour: Belt and bulkheads, 1.6 in.; turrets, 2 in.; deck, 1 in.  
Armament: 2-4.7 in.; 3-4.7 in. howitzers; 2-11 pr.; 6 M.

## V BODROG . . . . . Neupesth, 25.3.04.

Length, 183.7 ft. Beam, 30.7 ft. Draught, 4 ft. Disp., 433 tons.  
I.H.P. 1380=13 kts.

Armour: Partial belt, 1.6 in.; bulkheads, 1.6 in.; turrets,  
2.9 in. to 1.6 in.; deck, 1 in.

Armament: 2-4.7 in. (45 cal.) in 2 turrets abreast forward;  
1-4.7 in. howitzer aft.; 3 M. Compt. 77.

(Temes, sister ship, sunk in 1914.)

## V SZAMOS and KOROS . . . . . Buda-Pesth, 1893

Length, 177 ft. Beam, 20.5 ft. Draught, 4 ft. Disp., 441 tons.  
I.H.P. 1185=10 kts.

Armour: Belt, 2 in.; turrets, 3 in.; deck, 7 in.

Armament: 2-4.7 in. (35 cal.) in turret forward; 2-11 pr.;  
2 M. Compt. 78.

## V MAROS and LEITHA . . . . . Buda-Pesth, 1871 (1894)

Length, 164 ft. Beam, 26.2 ft. Draught, 3.6 ft. Disp., 305 tons.  
I.H.P. 690=8 kts.

Armour: Belt, 1.7 in.; turret, 2 in.; deck, 1 in.

Armament: 1-4.7 in. (35 cal.) in turret forward; 3 M. Compt. 57.

## PATROL BOATS.

"a" . . . . .	1893.	30 tons.	200 H.P.	...	Compt. 11.
"b" . . . . .	1906.	36 "	400 "	14 kts.	" 13.
"c," "d" . . . . .	1909.	39 "	690 "	14 "	" "
"e," "f," "g,"					
"h" . . . . .	1909.	15 "	300 "	22 "	" "
2 boats . . . . .	bldg.	...	...	...	...

All have internal combustion engines, and all carry 1 M.

## BELGIUM

Name.	Built.	When.	Length.	Beam.	Net tons.	Speed.	I. H. P.	Turbine or paddle.
T			ft.	ft.		kts		
Ville de Liege . .	Antwerp	'14	313	36	1670	24	12,000	tur.
Stad Antwerpen . .	Antwerp	'13	313	36	1670	24	12,000	tur.
Pieter de Coninck . .	Antwerp	'10	361	40	2200	24	13,500	tur.
Jan Breydel . . .	Antwerp	'10	361	40	2200	24	13,500	tur.
Princesse Elizabeth .	Antwerp	'05	353	40	2050	24	13,000	tur.
Princesse Clementine	Hoboken	'97	354	38	1800	22	9,200	pad.
Rapide . . . . .	Antwerp	'95	314	38	1450	21	7,000	pad.
Marie Henriette . .	Antwerp	'95	357	38	1790	22	8,300	pad.
Leopold II. . . . .	Dumbtn.	'93	357	38	1790	22	8,300	pad.
Princesse Henriette	Dumbtn.	'88	300	38	1460	21	6,300	pad.

The above, the property of the Belgian Government, are commanded by Government naval officers under the Bureau of Marine, and some of them might, on account of their speed, be useful as despatch vessels in war, in certain eventualities.

There are also a number of boats on the Congo, mostly stern-wheel steamers. The largest is of 500 tons.

ari KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim

## BRAZIL



## BATTLESHIPS.

## A

**SÃO PAULO** . . . . Barrow, 19.4.09      Laid down, 1907  
**MINAS GERAES** . . . . Elswick, 10.9.08      ,,      1907

Length, p.p. 500 ft. ; w.l. 530 ft. ; o.a. 543 ft. Beam, 83 ft.  
 Draught (mean), 25 ft. ; (max.), 28 ft. Disp., 19,281 tons.

I.H.P. 23,500=21 kts. Coal cap., 800/2360 tons. Oil, tons.

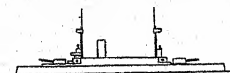
Engines : 2 sets 3 expans. by Vickers, Barrow. Boilers, Babcock  
 & Wilcox.

Trials : *São Paulo*, I.H.P. 28,646=21.6 kts. ; *Minas Geraes*,  
 I.H.P. 27,212=21.4 kts.

Armour : Krupp. Complete belt from 5 ft. below water line and  
 lower deck side, 9 in. amidships, tapering to 4 in. at ends ;  
 bulkheads, 9 in. ; battery, 9 in. ; turrets and barbettes,  
 12 in. to 8 in. ; C.T., 12 in. forward, 9 in. aft ; deck, 2 in. ;  
 upper deck over battery, 1.2 in.

Armament : 12-12 in. (45 cal.) in pairs in turrets, two forward  
 and two aft, one on each beam ; No. 2 fires over No. 1, and  
 No. 5 over No. 6 ; the starboard amidship turret is slightly  
 forward of the port, but the superstructure prevents any  
 cross-deck firing ; 22-4.7 in. (50 cal.), fourteen in battery,  
 eight in or on superstructure ; 8-3 pr. No torpedo tubes.

Compt. 900.



## COAST DEFENCE SHIPS.

## D

**FLORIANO** . . . La Seyne, 6.7.99      Ld. dn. 1897  
**DEODORO** . . . La Seyne, 18.6.98      „ 1896 (ex *Ypiranga*)

Length, p.p. 267.5 ft. Beam, 47.9 ft. Draught (mean), 13.5 ft.  
 Disp., 3112 tons.

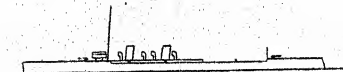
I.H.P. 3354=15 kts. Coal cap., 232 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox (1912).

Armour: Harvey. Complete belt, 13.7 in. at top, 5.9 in. at bottom amidships, tapering to 3.9 in. at ends; turrets, 8.6 in.; casemates, 2.9 in.; C.T., 4.9 in.; deck, sloping, 1.8 in.

Armament: 2-9.2 in. (45 cal.) in turrets fore and aft; 4-4.7 in. (50 cal.) in casemates; 6-6 pr.; 4-1 pr.; 2 M. Torpedo tubes, 2-18 in., submerged, broadside.

Compt. 200.



## CRUISERS.

## I

**BAHIA** . . . . . Elswick, 2.1.09  
**RIO GRANDE DO SUL** . . . . . Elswick, 20.4.09

Length, 380 ft. Beam, 39 ft. Draught (mean), 14 ft. Disp., 3100 tons.

I.H.P. 18,000=26 kts. Coal cap., 650 tons.

Engines: Parsons turbines, by Vickers. Boilers, Yarrow.

Trials: *Bahia*, I.H.P. 20,100=27 kts.; *Ria Grande do Sul*,

I.H.P. 20,600=27.4 kts.

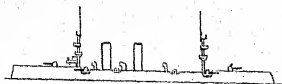
Armour: Deck, 1.5 in.; C.T., 4.9 in.

Armament: 10-4.7 in. (cal.); 6-3 pr. Torpedo tubes, 2-18 in., above water, broadside.

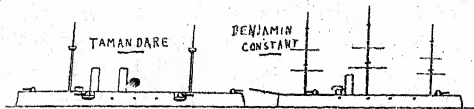
Compt. 320.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim



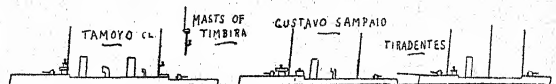
**BARROSO** . . . Elswick, 25.8.06. Sheathed and coppered  
 Length, p.p. 330 ft. Beam, 43.7 ft. Draught (mean), 16.9 ft.  
 Disp., 3450 tons.  
 I.H.P. 7500=20 kts. Coal cap., 700/850 tons.  
 Engines: 2 sets 3 expans. Boilers, cylindrical.  
 Armour: Deck, 3.5 in. to 1.2 in. steel.  
 Armament: 6-6 in. (50 cal.); 4-4.7 in. (50 cal.); 10-6 pr.;  
 4-1 pr.; 4 M. Torpedo tubes, 3 above water, bow and  
 broadside. Compt. 300.



**TAMANDARE** . . . Rio de Janeiro, 3.90. Laid down, 1887  
 Length, p.p. 294 ft. Beam, 46 ft. Draught (mean), 18.3 ft.  
 Disp., 4537 tons.  
 I.H.P. 7500=17 kts. Coal cap., 400/750 tons.  
 Engines: 2 sets horizontal 3 expans. by Maudslay. Boilers,  
 cylindrical.  
 Armour: Deck, 1.6 in.  
 Armament: 10-6 in. (45 cal.), six in unarmoured main deck  
 battery, four in sponsons on upper deck; 2-4.7 in. (45 cal.)  
 in shields f. and a.; 8-1 pr. Compt. 450.  
 (Gunnery School Ship.)

**BENJAMIN CONSTANT** . . La Seyne, 10.92. Sheathed and coppered  
 Length, p.p. 236.3 ft. Beam, 44.6 ft. Draught (mean), 18 ft.  
 Disp., 2707 tons.  
 I.H.P. 3945=15 kts. Coal cap., 260 tons.  
 Armour: Deck, 2 in.; C.T., 3.2 in.  
 Armament: 4-6 in. (45 cal.), two on forecastle, two on poop;  
 8-4.7 in. (45 cal.) on broadside; 2-6 pr.; 2-1 pr.; 4 M.  
 Torpedo tube, 1, in bow. Compt. 380.  
 (Training Ship for Cadets.)





## TORPEDO GUNBOATS.

**L**  
**TAMOYO** . . . Germania, 26.5.98. **TUPY** . . . Germania, 15.11.96  
**TYMBIRA** . . . Germania, 1.4.96 (ex *Caramuru*)

Length, 259 ft. Beam, 30 ft. Draught (mean), 9.8 ft. Disp., 1014 tons. (*Tamoyo*: Length, 279 ft. Beam, 29.2 ft. Disp., 1065 tons.)

I.H.P. 6410=22.5 kts. Coal cap., 100/257 tons.

Engines: 2 sets 3 expans. Boilers, locomotive.

Armour: Deck, 1 in.; C.T., 2 in.

Armament: 2-4.7 in.; 2-6 pr.; 2-1 pr.; 2 M. Torpedo tubes, 3-14 in. above water, bow and broadside.

Compt. 120.

**L**  
**GUSTAVO SAMPAIO** . . . Elswick, 1893 (ex *Aurora*)

Length, 196 ft. Beam, 21 ft. Draught (max.), 9 ft. Disp., 500 tons.

I.H.P. 2300=18 kts. Coal cap., 150 tons.

Armament: 2-3.5 in. (20 pr.); 4-3 pr. Torpedo tubes, 3-14 in. above water, bow and broadside. Compt. 80.

## GUNBOATS.

**R**  
**TIRADENTES** . . . Elswick, 26.5.92. Wood-sheathed

Length, p.p. 165 ft., o.a. 173 ft. Beam, 30 ft. Draught (max.), 12 ft. Disp., 800 tons.

I.H.P. 1200=14.7 kts. Coal cap., 140 tons. 1 screw.

Armament: 4-4.7 in.; 2-6 pr.; 5 M. Compt. 100.

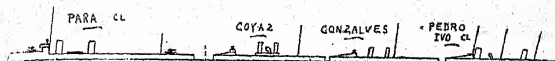
**R**  
**PRIMEIRO DE MARÇO** . . . 1881. Reconstructed, 1904. Composite  
 Length, 167 ft. Beam, 27.4 ft. Draught, 10.4 ft. Disp., 726 tons.

I.H.P. 750=9 kts. 1 screw.

Armament: 4-6 pr.; 2-1 pr.; 4 M. Compt. 150.  
 (Training Ship.)

mi KVSS Prasad Rao

HE. Mr Tariq Ahmed Karim



## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed Trials.	Boilers.	Armament.	Coal.	Compt.
<b>M</b>												
5 boats . . .	pro.	..	..	..	..	..	..	..	..	..	..	..
Para . . .	'08							27-2	Y	2-4 in.; 4-8 pr. 2-18 in. tubes.	140	..
Piahy . . .	'08							27-2	"		"	..
Amazonas . . .	'08							27-1	"		"	..
Matto Grosso . . .	'08							27-1	"		"	..
Rio Grande do Norte	'09	Y	240	23.5	7.6	650	8400	27-2	"		"	..
Parahyba . . .	'09							27-3	"		"	..
Alagoas . . .	'09							27-2	"		"	..
Sta. Catherina . . .	'09							27-3	"		"	..
Parana . . .	'10							28-7	"		"	..
Sergipe . . .	'10							27-6	"		"	..

## TORPEDO BOATS.

O

Goyaz . . .	'07	Y	152.5	15.2	..	130	..	28-5	Y	{ 2-3 pr. 2-18 in. t. }	..	..
Gonzalves . . .	'01	T	150	14.5	5.2	150	1550	25	L	{ 2-1 pr. 2 t. }	22	..
Pedro Ivo . . .	'03	S	152	17.2	..	130	2200	26	L	{ 2-1 pr. 3-14 in. t. }	30	..
Silvado . . .												
Pedro Afonso . . .												

NOTES. — Builders: Y=Yarrow; T=Thornycroft; S=Schichau. Boilers: Y=Yarrow; L=Locomotive. *Goyaz* has combined turbine and reciprocating engines. There are also a few old spar-torpedo boats.

**SUBMARINES.**

3 boats, Spezia, 1913. 3 boats pro.

Length, 147.6 ft. Beam, 13.8 ft. Disp., 249/370 tons.

I.H.P. = 13.8 kts.

Armament: 2 tubes.

**SUBMARINE DEPÔT SHIP AND DOCK.**

**W** **CEARA** . . . . . Spezia, 1913

Length, 326 ft. Beam, 51 ft. Draught, 13 ft. Disp., 3735 tons.

I.H.P. = 14 kts. Diesel engines.

Armament: 6-3.9 in.

**MINE LAYER.**

**W**

**REPUBLICA** . . Elswick, 26.5.92. (ex *XV de Novembro*)

Length, p.p. 210 ft.; o.a. 226.5 ft. Beam, 35 ft. Draught (max.), 15 ft. Disp., 1300 tons.

I.H.P. 3400=17.4 kts. Coal cap., 416 tons.

Armour: Deck, 2.5 in. to 1.5 in.

Armament: (original) 6-4.7 in.; 4-6 pr.; 2 M. Torpedo tubes, 3-14 in., bow and broadside.

Compt. 165.

**RIVER MONITORS.**

**V**

**MARANHÃO** . . . . . Rio de Janeiro.

Composite

**PERNAMBUCO** . . . . . 1905. "

Length, 137.7 ft. Beam, 32.9 ft. Draught (mean), 5.7 ft.  
Disp., 463 tons.

I.H.P. 870=11 kts. Coal cap., 45 tons.

Armour: Complete belt, 6.7 in. to 3.9 in.; turret, 5.9 in.; C.T., 3.5 in.

Armament: 2-4.7 in. in turret forward; 4-1 pr.; 3 M.

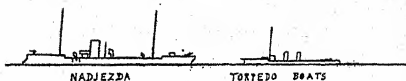
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## MISCELLANEOUS.

V	Name.	Date.	Disp.	Speed.	Armament.	Compt.	
			tns.	kts			
	Carioca	'87	210	8	{ 2-4.7 in.; 4-1 p.; 2 M.	70	{ River gun- boat
	Cananéa	'86	"	"	"	"	"
	Inciadora	'83	268	10	3-1 pr.; 2 M.	62	"
	Fernandes	'68	137	6	"	53	"
	Vieira	"	"	"	"	"	"
	Vidal de	"	"	"	"	"	"
	Negreiros	"	"	"	"	"	"
	Acre	'04	25	11	"	30	"
	Missões	"	"	"	1-3.4 in. howitzer;	"	"
	Amapá	"	"	"	2-6 pr.; 7 M.	"	"
	Juruá	"	"	"	"	"	"
	Jutahy	'91	33	"	1-3 pr.; 2 M.	"	"
	Teffé	"	"	"	"	"	"
	Tocantins	"	"	"	"	"	"
	6 boats	"	"	9	1 M.	"	"
	Amapa	'07	"	13	1-6 pr.	"	Customs
	Antonio João	"	"	"	"	"	Tug
	Audaz	"	"	"	"	"	"
	Lima Duarte	"	"	"	"	"	"
	Jaraguayo	"	"	"	"	"	"
	Laurindo Pitta	'10	304	"	"	"	"
	Coelho Netto	"	"	"	"	"	"
	Guarany	'12	"	10	"	"	"
	Guirota	"	"	"	"	"	"
	Marambaia	"	"	"	"	"	"
	Intrepido	"	"	"	"	"	"
	XI. de Julio	"	"	"	"	"	"
	Colonna	"	"	"	"	"	"
	XIX. de Febrero	"	"	"	"	"	"
	Voluntario	"	"	"	"	"	"
	da Patria	"	"	"	"	"	"
	3 boats	"	"	"	"	"	Water tanks
	7 boats	"	"	"	"	"	{ Harbour launches
	Andrada	'90	2800	17	{ 2-4.7 in.; 2-3 in.; 4-1 pr.; 2 M.	"	Transport
	Carlos Gomes	'92	1800	16	3 small guns	"	Troopship
	Commandante	"	750	8	"	"	Light tender
	Freitas	"	"	"	"	"	Training
	Caravellas	'87	150	"	2-3 pr.	"	brig
	Recife	'92	"	"	"	"	"

## BULGARIA



### TORPEDO GUNBOAT.

**L**

**NADJEZDA** . . . . . Bordeaux, 21.9.98

Length, p.p. 219 ft. ; o.a. 229.6 ft. Beam, 26.7 ft. Draught (max.), 10.8 ft. Disp., 703 tons.

I.H.P. 2565=17 kts. (18.8 kts. on trial, light.)

Engines : 2 sets 3 expans. Boilers, Lagrafel d'Allest.

Armament : 2—3.9 in. in sponsons forward ; 2—9 pr. ; 2—3 pr. Torpedo tubes, 2 above water.

(Used as Royal Yacht and also as Training Ship.)

### TORPEDO BOATS.

**P**

**OHABRI, SMELI, BISTRI, SCHUMMI, LETJASHTCHI, STROCI.**

Built at Creusot and reassembled at Varna, 1907-8.

Length, 124.7 ft. Beam, 14.4 ft. Draught, 8.5 ft. Disp., 98 tons.

I.H.P. 1973=26 kts. Single screw. Boilers, Du Temple.

Armament : 2—3 pr. Torpedo tubes, 3—18 in.

Compt. 23.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

## MISCELLANEOUS.

## X

**ALEXANDER I** . . . . La Seyne, 1880. Paddle steamer.

Disp., 786 tons.

I.H.P. 690=11 kts.

Armament: 4-12 pr. ; 4-3 pr.

(Gunnery and Torpedo School Ship.)

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## X

**ASJEN.** Disp., 400 tons. Armament: 4-3 pr.

**KRUM.** Disp., 650 tons. Armament: 3-12 pr. ; 4-3 pr. Royal Yacht.

**SIMEON VELIKI.** Disp., 600 tons. Armament: 2-12 pr. ; 2-3 pr.

**KAMCHIA** and **STRYELA.** Yachts.

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## X

**BORIS, LIUBEN KARAVELOV, RAINA, RAKOVSKI, VOIVODE, STEFAN KARAJO, HADJI DEMETER.** Steam Launches.

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## Q

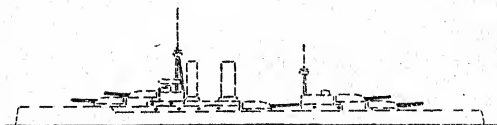
**BOTEV** and **LEVSKI.** Spar torpedo boats.

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## X

**JANTRA** and **LOM.** Disp., 400 tons. Sailing transports.

## CHILI



## BATTLESHIPS.

A\*

**ALMIRANTE COCHRANE** . . . Elswick, 1914. Laid down, 22.1.13

Length, o.a., 625 ft. Beam, 93 ft. Draught (mean), 28 ft.  
Disp., 28,000 tons.

I.H.P. 37,000=22 kts. Coal cap., 1000/3500 tons. Oil, 450 tons.

Engines: Turbine, by John Brown & Co.

Armour: Krupp. Belt, nearly complete, rising to main deck, 11 in. amidships tapering to 6 in. at ends; main deck side amidships, 8 in.; battery, 7 in.; turrets and barbettes, 11 in.; C.T., in.

Armament: 10-14 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1 and No. 4 over No. 5; 6-6 in. (50 cal.) in upper deck and superstructure batteries; 4-3 in. (14 pr.). Torpedo tubes, 4-21 in. submerged.

Compt. 1000.

(*Almirante Latorre* of this class taken over by Great Britain, 1914. *Al. Cochrane* will probably be the same.)

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**D**

**CAPITAN PRAT** . . . La Seyne, 20.12.90. Reconstructed, 1908

Length, p.p. 328 ft. Beam, 60.6 ft. Draught (mean), 22 ft.

Disp., 6900 tons.

I.H.P. = 19.5 kts. Coal cap., 400/1100 tons.

Engines: 2 sets horiz. 3 expans. Boilers, Babcock & Wilcox (1908).

Armour: Steel. Complete belt, 6.9 ft. wide, 11.8 in. at top, 7.9 in. at bottom amidships, tapering to 4.7 in. at ends; lower and main deck side amidships for 135 ft., 3.9 in.; barbettes, 10.8 in.; hoods to these and turrets for 4.7 in. guns, 2 in.; deck, flat on belt, 3 in. to 2 in.

Armament: 4-9.4 in. (36 cal.) singly in barbettes f. and a., and one on each beam; 8-4.7 in. (45 cal.) in pairs in turrets at corners of superstructure; 6-6 pr.; 4-3 pr.; 10-1 pr.; 5 M. Torpedo tubes, 4 above water, bow, stern and broadside. Compt. 480.

**U**

**ALMIRANTE COCHRANE** . . . Hull, 1874. Reconstructed, 1900

Length, o.a. 210 ft. Beam, 46 ft. Draught (mean), 19.7 ft.

Disp., 3500 tons.

I.H.P. 2920=12 kts. Coal cap., 254/330 tons.

Engines: 2 sets horizontal compound by Penn.

Armour: Iron. Complete belt, 9 ft. wide; 9 in. amidships, tapering to 4.5 in. at ends; battery, 8 in.; B.H., 6 in.; deck, flat on belt, 3 in. to 2 in.

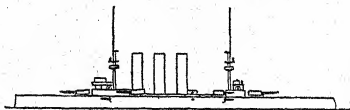
Armament: 6-8 in. (old) in battery; 1-13 pr.; 4-6 pr.; 4-1 pr.; 3 M. Torpedo tubes, 3 above water; two in bow, one in stern. Compt. 242.

(Gunnery and Torpedo School Ship.)



ARMoured  
CRUISERS.

F

**O'HIGGINS** . . . . . Elswick, 17.3.97. Laid down, 4.96

Length, 411.7 ft. Beam, 62.7 ft. Draught (mean), 22 ft. Disp., 8500 tons.

I.H.P. 16,500=21.2 kts. Coal cap., 700/1200 tons.

Engines: 2 sets 3 expans. by Humphrys, Tennant, &amp; Co. Boilers, Belleville.

Armour: Harvey nickel. Partial belt, 260 ft. long, 7 ft. wide, 7 in. to 5 in.; main turrets, 7.5 in. to 6 in., with 7.5 in. barbettes, and 6 in. hoists; secondary turrets and casemates, 6 in.; C.T., 9 in.; deck, sloping, 2 in.

Armament: 4-8 in. (45 cal.) in turrets f. and a., and on each beam well forward; 10-6 in. (40 cal.), six in casemates on main deck, four in turrets on upper deck; 4-4.7 in. (45 cal.) on superstructure; 10-3 in. (12 pr.); 10-6 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 500.

G

**ESMERALDA** . . . . . Elswick, 14.4.96

Length, p.p. 436 ft. Beam, 53.2 ft. Draught (mean), 20.5 ft. Disp., 7000 tons.

I.H.P. 16,000=23 kts. Coal cap., 550/1350 tons.

Engines: 2 sets 3 expans. by Humphrys, Tennant, &amp; Co. Boilers, cylindrical.

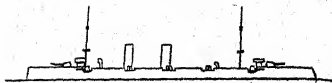
Armour: Harvey. Partial belt, 328 ft. long, 7 ft. wide, 6 in.; B.H., 6 in.; shields and hoists to 8-in. guns, 4.5 in.; C.T., 8 in.; deck, sloping, 1.5 in. behind belt, 2 in. at ends.

Armament: 2-8 in. (40 cal.) in shields f. and a.; 16-6 in. (40 cal.) in shields on beam; 8-3 in. (12 pr.); 9-6 pr.; 2-3 pr.; 8 M. Torpedo tubes, 3-18 in.; two submerged on broadside, one above water in bow.

Compt. 500.

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HE. Mr Tariq Ahmed Karim



**CHACABUCO** . . . . Elswick, 1898. Bought, 1902

Length, p.p. 360 ft.; o.a. 396 ft. Beam, 46.5 ft. Draught (mean), 17 ft. Disp., 4300 tons.

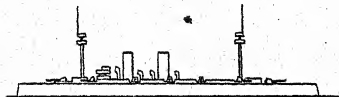
I.H.P. 15,500=24 kts. Coal cap., 350/1000 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Deck, 4.5 in. to 1.7 in.; shields to 8-in. guns, 4.5 in. to 2 in.; C.T., 5 in.

Armament: 2-8 in. (45 cal.) in shields f. and a.; 10-4.7 in. (45 cal.); 12-3 in. (12 pr.); 6-1 pr. Torpedo tubes, 5-18 in. above water, bow and broadside.

Compt. 400.



**BLANCO ENCALADA** . . Elswick, 9.9.93. Sheathed and coppered

Length, p.p. 370 ft. Beam, 46.5 ft. Draught (mean), 18.5 ft. Disp., 4420 tons.

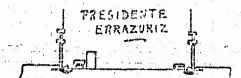
I.H.P. 14,500=22 kts. Coal cap., 350/900 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Deck, 4 in. to 1.7 in.; shields to 8-in. guns, 6 in.; C.T., 6 in.

Armament: 2-8 in. (40 cal.) in shields f. and a.; 10-6 in. (40 cal.); 12-3 pr.; 10-1 pr.; 2 M. Torpedo tubes, 5-18 in. above water, bow and broadside.

Compt. 427.



J

**PRESIDENTE ERRAZURIZ** . La Seyne, 1890. Sheathed and coppered  
Length, p.p. 268.3 ft. ; o.a. 288.7 ft. Beam, 35.7 ft. Draught  
(mean), 14.9 ft. Disp., 2043 tons.

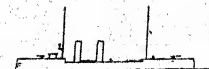
I.H.P. 5325=19 kts. Coal cap., 200 tons.

Engines: 2 sets horiz. 3 expans. Boilers, Belleville (1908).

Armour: Deck, 2.3 in. ; shields to 6-in. guns, 3.2 in.

Armament: 4-6 in. (45 cal.) in sponsons ; 2-4.7 in. (45 cal.) ;  
4-6 pr. ; 4-1 pr. ; 2 M. Torpedo tubes, 3 above water,  
bow and broadside.

Compt. 271.



## TORPEDO GUNBOATS.

L

**TOME** . . . . . (ex *Almirante Lynch*). Birkenhead, 10.2.90

**TALCAHUANO** . . . (ex *Almirante Condell*). Birkenhead, 8.3.90

Length, 230 ft. Beam, 27.5 ft. Draught (mean), 9 ft. ; (max.)  
12.5 ft. Disp., 750 tons.

I.H.P. 4000=20 kts. Coal cap., 100 tons.

Engines: 2 sets, 3 expans. Boilers, Belleville (1901).

Armament: 6-6 pr. Torpedo tubes, 5-14 in. above water, bow  
and broadside.

Mr KVSS Prasad Rao

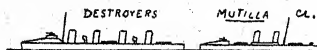
H.E. Mr Tariq Ahmed Karim

## DESTROYERS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.	Coal.	Compl.
		ft.	ft.	ft.	tns.		kts.		tns.	
N Capitan O'Brien Capitan Merino Tarpa Guardia-Marina Riquelme Teniente Serrano Capitan Munoz Gamero Capitan Orella.	'01          	213          	21.5          	..          	350          	6000          	30          	1-12 pr.; 5-6 pr.; 2-18 in. tubes.	90          	65          

## TORPEDO BOATS.

O Ingeniero Mutilla Guardia-Marina Contreras Capitan Thomson Teniente Rodriguez Ingeniero Hyatt Cirujano Vidella	'08       	152.5       	15.2       	7.7       	130       	2000       	25.5       	3-1 pr.; 2-18 in. tubes.	40       	28       
P Sargente Aldea	'80	125	13.5	5.5	70	800	20	2 M.; 4 t.	15	..
Q Glaura Guale Janequeo Rucamilla Tegualda Fresia Lanca Quidora Colocolo Tucape 1 boat	'81               	100               	12.5               	6.7               	35               	400               	18               	4 M.; 4 t.               	9               	9               
	'81	86	12.5	5	25	400	19	1 M.; 4 t.	6	..
	'80	50	8	6	5	40	16	1 M.; 2 t.	..	..
	'92	60	9.5	5	15	270	19	1-3 pr.; 1 M.; 1 t.	..	..



NOTES ON TORPEDO CRAFT (see previous page):—

Destroyers: Built by Laird, Birkenhead. Laird-Normand boilers.

Torpedo boats: All built by Yarrow, Poplar, except the last, which is by White, Cowes, and the first four, which are Chilean copies of the Yarrow design. This class have Yarrow boilers; the others locomotive.

#### TRAINING SHIP.

X

**GENERAL BAQUEDANO** . . . Elswick, 5.7.98. Sheathed and coppered

Length, p.p. 240 ft. Beam, 45.7 ft. Draught (mean), 18 ft.  
Disp., 2500 tons.

I.H.P. 1500=12 kts. Coal cap., 200/300 tons. 1 screw.

Engines: By Hawthorn, Leslie, & Co. Boilers, Belleville.

Armament: 4—4.7 in. (45 cal.) in sponsons; 2—3 in. (12 pr.);  
2—6 pr.; 2 M. One 18 in. torpedo tube.

Compt. 300.

Mr KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim

## SUBSIDISED MERCHANTMEN.

Steamers.	Material.	Built.	Where.	Length.	Beam.	Tons.	H.P.N.	Speed.
T				ft.	ft.	gross		kts.
Cachapoal .	Iron	1881	B'head	334.7	40.3	2160	400	16
Maipo .	Iron	1882	Pt. Glasg.	332.2	39.9	2295	280	16
Mapocho .	Iron	1882	B'head	331.2	41.4	2278	450	16
Imperial .	..	1889	..	..	..	2362	..	16
Limari .	..	..	..	..	..	..	..	14.5
Tucapel .	..	..	..	..	..	..	..	14.5
Amazonas	..	1874	..	..	..	2009	..	14
Aysen .	..	..	..	..	..	..	..	14
Huasco .	..	..	..	..	..	..	..	14
Palena .	Steel	1896	Whiteinch	365	..	..	..	..
Loa .	Steel	1895	Whiteinch	365	..	..	..	..

## MISCELLANEOUS.

Name.	Where Built.	Date.	Disp.	I.H.P.	Speed.	Service.
X and Z			tons.		kts.	
Huascar .	Birkenhead	1865	1870	1100	9	ex Battleship
Magallanes .	London	1874	950	1040	11	Surveying
Huemul .	Havre	1889	146	250	10	ex Gunboat
Condor .		..	..	..	..	..
Lautaro .	Valparaiso	1881	..	..	10	..
Toro .	Marseilles	1879	..	150	9	Special service
Valparaiso .	Clyde	1897	..	..	..	Tug
Yanez .	S. Shields	1888	200	63 N	..	Tug
Aquila .	Newcastle	1889	1448 net	729 N	..	Special service
Spartan .	(Purchased	1891)	..	..	..	Special service
Contramastor Pinlo	Paisley	1909	..	..	..	{ Tug and Salvage Steamers
Piloto						
Sibbald						
Length.						
Kate Kellock	..	..	..	..	..	Coal hulk
Abtao .	..	1864	1870	..	..	..
Elvira .	..	..	700	..	..	..
Alvarez }	..	..	..	..	..	..
Limari .	..	1869	967	227 ft. 6 in.	..	Store ship
Chacabuco .	..	1866	1470	..	..	Coal hulk
Miraflores .	..	..	1870	183 ft.	..	..
Thalaba .	..	..	1280	183 ft.	..	..

## CHINA

(All data with regard to the older and smaller ships are very doubtful.)

## CRUISERS.

K	—	. . . . .	Trieste (Monfalcone), building
	—	. . . . .	" " "
	—	. . . . .	" " "

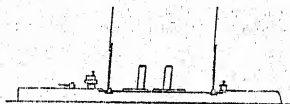
L., 360 ft. B., 39 ft. D. (mean), 15.4 ft.

I.H.P. 30,000=32 kts.

Engines: Parsons turbines. Boilers, Yarrow.

Armament: 10-4 in. (50 cal.); 2 M. Torpedo tubes, 2.

(Will probably be taken over by Austria.)



J	YING-SWEI . . . . .	Barrow, 14.7.11
	CHAO-KO . . . . .	Elswick, 23.10.11

L., p.p. 330 ft. B., 39.5 ft. D. (mean), 13 ft. Disp., 2460 tons.

I.H.P. 6000=20 kts. Coal cap., 225/600 tons.

Engines: Parsons turbines. Boilers, White-Forster and cylindrical.

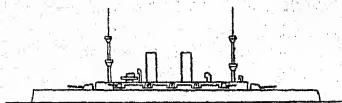
Armour: Deck, 1.5 in.

Armament: 2-6 in. (45 cal.) in shields f. and a.; 4-4 in. (50 cal.); 2-3 in. (14 pr.); 6-3 pr.; 2-1 pr. Torpedo tubes, 2-18 in. above water, broadside.

Compt. 270,

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



**I HAI-CHI . . . . .** Elswick, 23.1.98

Length, p.p. 360 ft. ; o.a. 396 ft. Beam, 46.5 ft. Draught (mean), 16.7 ft. Disp., 4300 tons.

I.H.P. 17,000=24 kts. Coal cap., 400/1000 tons.

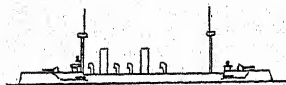
Engines: 2 sets 3 expans. by Hawthorn, Leslie, & Co. Boilers, cylindrical.

Armour: Deck, 5 in. to 1.5 in. ; shields to 8-in. guns, 4.5 in. ; hoists, 4 in. ; C.T., 6 in.

Armament: 2-8 in. (45 cal.) in shields f. and a. ; 10-4.7 in. (45 cal.) in shields on beam ; 12-3 pr. ; 4-1 pr. ; 6 M. Torpedo tubes, 5-18 in. above water, bow and broadside.

Compt. 374.

(A sister ship, *Hai-Tien*, was wrecked in 1904.)



**J HAI-YUNG . . . . .** Stettin, 15.9.97  
**HAI-CHU . . . . .** „ 11.12.97  
**HAI-CHEN . . . . .** „ 12.2.98

Length, 328 ft. Beam, 40.7 ft. Draught (mean), 14.4 ft. Disp., 2953 tons.

I.H.P. 7400=19.5 kts. Coal cap., 200/500 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Deck, 2.7 in. to 1.5 in. ; C.T., 1.2 in.

Armament: 3-5.9 in. (40 cal.) in shields, two forward, one aft ; 8-4.1 in. (40 cal.) ; 6-1 pr. ; 6 M. Torpedo tubes, 3-14 in. ; one submerged in bow, two above water, broadside.

Compt. 244.

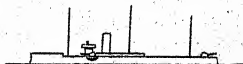


**R TON-CHI** . . . 1895. 1 funnel. Barque-rigged  
 Disp., 1800. Speed, 15 kts.  
 Armament: 2-5.9 in. ; 1-4.7 in. ; 2-1 pr. Compt. 244.

**R NAN-TING** . . . Howaldt, 8.1.83. 2 funnels. Barquentine  
 Length, 235 ft. Beam, 36 ft. Draught (mean), 18 ft. Disp.,  
 2200 tons.  
 I.H.P. 2400=14 kts. Coal cap., 460 tons.  
 Armament: 2-8 in. (old); 1-4.7 in. ; 7-4.7 in. (old 40 pr.);  
 4 M. Torpedo tube, 1. Compt. 250.

**R KING-CHING** . . . Foochow, 1886. 1 funnel. Barquentine. Wood  
 Length, 263 ft. Beam, 32.2 ft. Draught, 15 ft. Disp., 2100  
 tons.  
 I.H.P. 2400=14 kts. Coal cap., 360 tons.  
 Armament: 2-7 in. (old); 7-4.7 in. (old 40 pr.); 6 M.  
 Torpedo tubes, 2. Compt. 231.

**R PAO-MIN** . . . 1884. 1 funnel. Barquentine. Composite  
 Length, 217 ft. Beam, 36 ft. Draught (mean), 14 ft. Disp.,  
 1477 tons.  
 I.H.P. 2400=14 kts. Coal cap., 360 tons.  
 Armament: 2-5.9 in. ; 6-4.7 in. ; 4 M. Torpedo tubes, 2  
 in bow. Compt. 260.

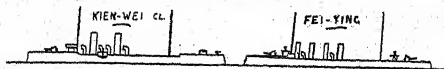


**R KWANG-TING** . . . 1891  
 Length, 234 ft. Beam, 26.3 ft. Draught, 13.2 ft. Disp., 1000  
 tons.  
 I.H.P. 2400=16 kts. Armour: Deck, 1 in.  
 Armament: 3-4.7 in., one aft, two in sponsons forward ; 4--3 pr.  
 Torpedo tubes, 4 above water ; two in bow, two broadside.  
 Compt. 120.

(This ship is sometimes called *Kwang-Yi*. There is probably some  
 confusion with the two small gunboats mentioned on p. 49.)

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



L

**KIEN-WEI** . . Foochow, 1900. **KIEN-NGAN** . . Foochow, 1900

Length, 255 ft. Beam, 26.7 ft. Draught (max.), 11.4 ft. Disp., 861 tons.

I.H.P. 6905=23 kts. Coal cap., 360 tons.

Engines: By Normand, Havre. Boilers, Normand.

Armour: Sides and deck amidships, 1 in.

Armament: 1-3.9 in.; 3-9 pr.; 6-1 pr. Torpedo tubes, 2 above water, broadside.

L

**FEI-YING** . . . . Stettin, 11.7.97

Length, 246 ft. Beam, 28.4 ft. Draught (mean), 13 ft. Disp., 837 tons.

I.H.P. 5430=22 kts. Coal cap., 180 tons.

Engines: By builders. Boilers, Yarrow.

Armament: 2-3.9 in.; 6-6 pr.; 2-1 pr. Torpedo tubes, 3 above water, bow and broadside. Compt. 90.

**DESTROYERS.**

Name. N	Date.	Builder.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tns.	I.H.P.	Speed. kts.	Armament.	Coal. tns.
Fu-po. . . . .	'12	S	..	..	..	450	..	32	{ 2-12 pr.; 4-3 pr.; 2 tubes }	..
Yen-yun . . . .										
Chan-yen . . . .										
Lung-tuan . . . .	'12	T	197	21.3	..	394	6000	30.7		..

**TORPEDO BOATS.**

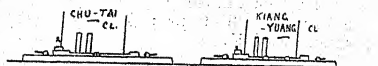
Nos. 1-4 . . . .	'95	S	138	13.2	6.5	120	1250	24	2-1 pr.; 3 tubes	18
Ho-Pau . . . . .	'07	K	128	15.7	..	98	1200	23	2-3 pr.; 3 tubes	..
Ho-Tuin . . . . .										
Ho-Wo . . . . .										
Ho-Yen . . . . .										
2 boats . . . . .	'82	V	122	12.6	5	50	700	18	1 tube	..
5 boats . . . . .	'84	S	85.5	12	5	26	420	16	1 tube	..

NOTES.—Builders: S=Schichau, Elbing; T=Stabilimento Tecnico, Trieste; K=Kawasaki, Kobe; V=Vulkan, Stettin. The four Kawasaki boats are sometimes called *Chang*, *Chen*, *Litch*, and *Su*.

## MODERN GUNBOATS.

**R** 2 boats . . . . Building in China  
Length, 220 ft. Beam, 29 ft. Draught, 5 ft. Disp., 1000 tons.  
Speed, 14 kts.

**R** **YUNG-FUNG, YUNG-CHIANG, YUNG-SIANG** . Japan, 1912  
Disp., 800 tons. Speed, 13.5 kts.  
Armament: 1-4 in. ; 1-3 in. (12 pr.) ; 4-3 pr. ; 2-1 pr.



**R** **CHU-TAI, CHU-TUNG, CHU-YU, CHU-TIEN, CHU-TONG, CHU-KIANG**  
Kawasaki, Kobe, 1906-7  
Length, 200 ft. Beam, 29.5 ft. Draught (max.), 8 ft. Disp., 750 tons.  
I.H.P. 1350=13 kts. Coal cap., 150 tons.  
Armament: 2-4.7 in. ; 2-3 in. (12 pr.) ; 4 M.  
Compt. 101.

**R** **KIANG-YUANG, Kiang Heng, Kiang Lee, Kiang Chen**  
Kawasaki, Kobe, 1905-6  
Length, 171 ft. Beam, 28 ft. Draught (max.), 8 ft. Disp., 565 tons.  
I.H.P. 950=13 kts. Coal cap., 100 tons.  
Armament: 1-4.7 in. ; 1-3 in. (12 pr.) ; 4-3 pr. ; 4 M.

**V** **KIANG-CHI, Kiang-Ku, Kiang-Kung, Kiang-Ta** . Hong Kong, 1908  
Length, 125 ft. Speed, 14 kts.  
Armament: 1-3 in. (12 pr.) ; 4 M.

**V** **TSIN-PEI** . . . . Germania, 1911. Reassembled in China  
1 boat . . . . Stettin, 1911. "  
Length, 146 ft. Beam, 24.6 ft. Draught, 2 ft. Disp., 147 tons.  
I.H.P. 500=12 kts.  
Armament: 1-3.5 in. howitzer ; 2-6 pr. ; 4 M.  
Compt. 21.

Mr KVSS Prasad Rao

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## OLD GUNBOATS.

R

**KUANG-KEN, KUANG-SING, KUANG-YEN, KUANG-KWEI**China, 1887 (*circa*). Wood.Length, 141 ft. Beam, 24.6 ft. Draught, 10 ft. Disp., 560 tons.  
I.H.P. 400=11 kts.

Armament: 2-4.7 in. (old); 1-3.9 in. (old); 4 M.

(Alternative names for two of the last three are  
**Kuang-Mao and Kuang-Chei.**)

R

**KUANG-YI . . . 1891. KUANG-KING . . . 1890. Wood**Length, 150 ft. Beam, 24 ft. Draught, 9.4 ft. Disp., 600 tons.  
I.H.P. 500=12 kts.

Armament: 2-4.1 in.; 2-3.3 in.; 2 M.

R

**TAI-AN . . . . . 1896. Wood**

Length, 200 ft. Beam, 32.6 ft. Draught, 12.4 ft. Disp., 1250 tons.

I.H.P. 600=10 kts.

Armament: 4-4.7 in. (old 40 pr.); 2-3 pr.

R or V

**CHEN-HAI, TONG-YING-CHU, TSOW-TSAI, TSOW-HAI, CHING-YUEN,  
TSO-TING, PON-CHIN-HAI, HAI-KING-CHIN, CHEN-TAO, KIN-HO,  
FUI-HO, KIN-AU, PING-CHING, CHIN-HAI, AN-LAN, HAI-TON-SHON,  
HAI-CHAN-CHIN, SOI-CHING, KUANG-KING, FUI-WING, TIEN-SING,  
CHIN-HAN, YUEN-KAI, CHAO-WU, FU-PO, SI-CHU, LUN-SHANG,  
HO-WEI, FEI-TING.**

(All dating from the 70's and 80's, and probably useless if still existent.)

## YACHT.

X

**LIEN-CHIN . . . . . Shanghai, 1910**

Length, o.a. 173 ft. Beam, 25 ft. Draught (mean), 9 ft. Disp., 500 tons.

I.H.P. 960=14 kts.

## CABLE-SHIP.

X

**FEE-CHU . . . . . Sunderland, 20.4.87**

Length, 219 ft. Beam, 33 ft. Draught (mean), 13.3 ft. Disp., 1400 tons.

I.H.P. 1000=13 kts.

Armament: 2-6 in.; 4 M.

## COLUMBIA



R

**ALMIRANTE LEZO** . . . . . Leghorn, 1892. Bought from Morocco, 1902.  
(*ex Carthagera, ex El Baschir*)

Length, 229.5 ft. Beam, 32.7 ft. Draught, 13 ft. Disp., 1180 tons.  
I.H.P. 2270=16 kts.

Armament: 1-4.7 in. forward; 5-4 in.; 6-1 pr. Torpedo  
tubes, 4-14 in. above water.

**X BOLIVAR** . . . . . Govan, 1870. (*ex Libertador, ex Ban Righ*)

Length, 240 ft. Beam, 30 ft. 981 tons gross.

Armament: 2-3 pr.

X

**GENERAL PINZON** . . . . . New York, 1881. Bought, 1901  
(*ex Namouna*)

Length, 226 ft. Beam, 26.2 ft. Draught, 14 ft. Disp., 740 tons.

**X BOGOTA** . . . . . Bought, 1902. (*ex Jesse Banning*)

Armament: 2-3 pr.

(This ship is on the Pacific coast, the others on the Atlantic.)

**X LA POPA** . . . . . Armament: 2-6 pr.; 2 M.  
**CORDOVA** . . . . . Transports.

**V 3 boats** . . . . . Built by Yarrow, 1912. Re-erected

Length, p.p. 80 ft. Beam, 12.5 ft. Draught, 3.5 ft.

I.H.P. 120=12 kts. Petrol engines. 1800 gallons carried.

Armament: 1-3 pr.

(Two on Atlantic coast, one on Pacific.)

## COSTA RICA

**Q 1 Torpedo Boat** . . . . . Yarrow, Poplar, 1892

Length, 62 ft. Speed, 15 kts.

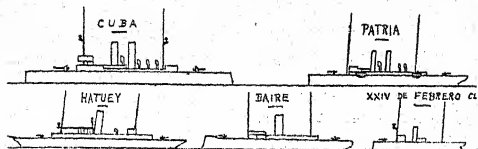
V

**1 Stern-Wheel Gunboat.**

ari KVSS Prasad Rao

HE Mr Tariq Ahmed Karim

## CUBA



## GUNBOATS.

**R CUBA** . . . . Philadelphia, 10.8.11  
 Length, p.p. 260 ft. Beam, 39 ft. Draught, 14 ft. Disp., 2055 tons.  
 I.H.P. 6000=19 kts. Coal cap., 250 tons. Boilers, Babcock  
 & Wilcox.  
 Armament: 2-4 in.; 4-6 pr.; 4-3 pr.; 4-1 pr.; 2 M.

**R ESCUELA PATRIA** . . . . Philadelphia, 10.8.11  
 Length, p.p. 200 ft. Beam, 36 ft. Draught, 13 ft. Disp., 1300 tons.  
 I.H.P. 4000=16 kts. Coal cap., 150 tons. Boilers, Babcock  
 & Wilcox.  
 Armament: 2-6 pr.; 4-3 pr.; 4-1 pr.; 2 M.

**X HATUEY** . . 1903. Bought in U.S.A., 1907. (ex *Pentooset*)  
 Length, 212 ft. Beam, 27 ft. Draught, 15 ft. Disp., 538 tons.  
 I.H.P. 1350=13 kts. Coal cap., 150 tons.  
 Armament, 2-6 pr.; 2-3 pr.; 2-1 pr.  
 (President's Yacht.)

**X BAIRE** . . . . . Danzig, 1906  
 Length, 196 ft. Beam, 23 ft. Draught, 9 ft. Disp., 500 tons.  
 I.H.P. 1200=14 kts. Coal cap., 120 tons.  
 Boilers, Babcock & Wilcox.  
 Armament: 2-6 pr.; 2-3 pr.; 1 M.

**X YARA** . . . . . Glasgow, 1895  
 Length, 155 ft. Beam, 26 ft. Draught, 13 ft. Disp., 449 tons.  
 I.H.P. 600=12 kts. Coal cap., 150 tons.  
 Armament: 2-6 pr.; 2-1 pr.

## V ORIENTE . . .

Length, 160 ft. Beam, 21 ft. Draught, 13 ft. Disp., 210 tons.  
I.H.P. 700=12 kts. Coal cap., 80 tons.  
Armament: 2-6 pr. ; 2-1 pr.

## V XX DE MAYO . . . . . Glasgow, 1895

Length, 141 ft. Beam, 18.5 ft. Draught, 10.5 ft. Disp., 203 tons.  
I.H.P. 500=12 kts. Coal cap., 50 tons.  
Armament: 2-3 pr. ; 2-1 pr.

## V ENRIQUE VILLUENDAS . . . Rochester, U.S.A., 1899

Length, 132 ft. Beam, 20 ft. Draught, 9.9 ft. Disp., 178 tons.  
I.H.P. 600=16 kts. Coal cap., 55 tons.  
Armament: 2-3 pr. ; 1 M.

## V XXIV DE FEBRERO and X DE OCTUBRE . Philadelphia, 1911

Length, p.p. 110 ft. Beam, 20 ft. Draught, 8 ft. Disp., 208 tons.  
I.H.P. 500=12 kts. Coal cap., 50 tons.  
Armament: 1-6 pr. ; 2-1 pr.

Name.	Date.	Material.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Coal cap.	Armament.
V										
CalixtoGarcia <sup>2</sup>	bdg.	W.	110	18	8	100	..	11	..	2-1 pr.
Pinar del Rio <sup>2</sup>	'12	W.	100	18	6	90	200	12	20	1-3 pr.; 1-1 pr.
Habaña <sup>2</sup>	'12	W.	100	18	6	90	200	12	20	
Matanzas <sup>2</sup>	'12	W.	100	18	6	90	200	12	20	
Villas <sup>2</sup>	'12	W.	100	18	6	90	200	12	20	
Alfredo	..	W.	60	12	6	40	..	11	..	1-1 pr.
Martí	'98	W.	98	12	6	50	350	15	15	
Agramonte <sup>1</sup>	'95	W.	81	13	6	45	250	11	10	
Céspedes <sup>1</sup>	'96	S.	75	10	5½	40	175	12	10	
Maceo <sup>1</sup>	'96	W.	73	10	5½	35	75	10	8	
Alacran	'00	S.	70	10	5	33	45	9	8	

All have single screws.

<sup>1</sup> ex Spanish gunboat.

<sup>2</sup> Built at Havana.

The remainder built in the United States.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

## DENMARK

## BATTLESHIPS.

## D

NIELS JUEL . . . Copenhagen, building. Laid down, 1913

Length,

I.H.P.

Engines:

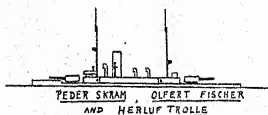
Armour:

Armament:

Compt.

(To be similar to *Peder Skram.*)





## D

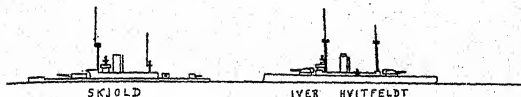
**PEDER SKRAM** . . . . Copenhagen, 2.5.08. Laid down, 1904  
 Length, 275.6 ft. Beam, 51.4 ft. Draught, 16.1 ft. Disp.,  
 3543 tons.  
 I.H.P. 4505=16 kts. (15.9 kts. on trial). Coal cap., 250 tons.  
 Engines: 2 sets 3 expans. Boilers, Thornycroft.  
 Armour: Krupp. Belt, 7 ft. wide, from 30 ft. from bow to  
 stern, 7 in. amidships, 4 in. aft; bulkhead forward, 7 in.;  
 turrets, 7 in.; casemates, 6 in.; con. tower, 7 in.; deck, flat  
 amidships, 2.2 in.; curved forward, 1.9 in.  
 Armament: 2-9.4 in. (45 cal.) in turrets forward and a.; 4-5.9 in.  
 (50 cal.) in casemates; 10-3 in. (12 pr.); 2-1 pr.; 4 M.  
 Torpedo tubes, 4 submerged, bow, stern, and broadside.  
 Compt. 260.

## D

**OLBERT FISCHER** . . . . Copenhagen, 9.5.03. Laid down, 1901  
**HERLUF TROLLE** . . . . " 2.9.99. " 1896  
 Length, 272.3 ft. Beam, 49.2 ft. Draught, 16.4 ft. Disp.,  
 3420 tons.  
 I.H.P. 4145=16 kts. Coal cap., 250 tons.  
 Trials: *Olfert Fischer*, 15.8 kts.; *Herluf Trolle*, 15.6 kts.  
 Engines: 2 sets 3 expans. Boilers, Thornycroft.  
 Armour: *Olfert Fischer*, Creusot; *Herluf Trolle*, Harvey nickel.  
 Belt, 7 ft. wide from 30 ft. from bow to stern, 7 in. amidships,  
 4 in. aft; bulkhead forward, 7 in.; turrets, 7 in.; case-  
 mates, 6 in.; C.T., 7 in.; deck, flat amidships, 2.2 in.,  
 curved forward, 1.9 in.  
 Armament: 2-9.4 in. (40 cal.); 4-5.9 in. (44 cal.); 10-6 pr.  
 with—in *Olfert Fischer*, 6-3 pr.; 2-1 pr.; 4 M.; and in  
*Herluf Trolle*, 11 M. only. Torpedo tubes, 3 submerged,  
 bow and broadside.  
 Compt. 254.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

**D**

**SKJOLD** . . . . . Copenhagen, 9.5.96. Laid down, 1893

Length, 222.2 ft.; o.a. 242 ft. Beam, 37 ft. Draught (mean), 13.8 ft.; (max.), 17.5 ft. Disp., 2165 tons.

I.H.P. 2170=13 kts. Coal cap., 280 tons.

Engines: 2 sets 3 expans. Boilers, Thornycroft.

Armour: Harvey. Belt, 6 ft. wide from 35 ft. from bow to stern, 8.9 in. to 6.9 in. amidships, 3 in. aft; bulkhead forward, 7.1 in.; main turrets, 7.9 in.; secondary turrets, 4.9 in.; C.T. 7.9 in.; deck, flat amidships, curved forward, 2 in.

Armament: 1-9.4 in. (40 cal.) in turret forward; 3-4.7 (40 cal.) in separate turrets aft; 4-3 pr.; 3 M. Torpedo tubes, 4, above water.

Compt. 210.

**D**

**IVER HVITFELDT** . . Copenhagen, 1886. Reconstructed, 1899 and 1906

Length, 242 ft. Beam, 49.5 ft. Draught (mean), 18 ft. Disp., 3290 tons.

I.H.P. 5030=15.5 kts. Coal cap., 295 tons.

Engines: 2 sets compound. Boilers, cylindrical.

Armour: Compound. Belt, 164 ft. long, 6.5 ft. wide, 11.5 in.; turrets, 8.5 in.; bulkheads, 9.5 in.; C.T., 6 in.; deck (flat on belt), 2.1 in.

Armament: 2-10.2 in. (old) in turrets f. and a.; 10-6 pr.; 6-1 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 298.



## CRUISERS.

**J GEISER** . . Copenhagen, 5.7.92 (Burmeister and Wain)  
**HEIMDAL** . . . . . 31.8.94 (Dockyard). Laid down, 1891

Length, 257.5 ft. Beam, 27.5 ft. Draught (mean), 11.4 ft.  
 Disp., 1270 tons.

I.H.P. 3050=17 kts. (17.5 or more on trial). Coal cap., 125 tons.  
 Boilers, Thornycroft.

Armour: Deck, amidships, 1.2 in., at ends, 0.7 in.; engine  
 coamings, 5.9 in.; hoists, 1.6 in.; C.T., 4.3 in.

Armament: 2-4.7 in. (40 cal.) f. and a.; 4-3.4 in. (18 pr.);  
 6-1 pr.; 2 M. Torpedo tubes, 4 above water, bow, stern,  
 and broadside. Compt. 155.



**J HEKLA** . . . . . Copenhagen, 28.11.90

Length, 233 ft. Beam, 32.9 ft. Draught (mean), 11.2 ft. Disp.,  
 1270 tons.

I.H.P. 2960=17.5 kts. Coal cap., 123 tons.

Boilers, cylindrical.

Armour: Deck, amidships, 1.2 in.; at ends, 0.7 in.; engine  
 coamings, 5.1 in.; hoists, 1.6 in.; C.T., 3.9 in.

Armament: 2-5.9 in. (32 cal.); 4-6 pr.; 6-1 pr.; 2 M.  
 Torpedo tubes, 1 submerged in bow, 4 above water, bow,  
 stern, and broadside. Compt. 155. (Submarine Tender.)

**J VALKYRIEN** . . Copenhagen, 9.9.88. Laid down, 1.11.86

Reconstructed and rearmed, 1913.

Length, 268 ft. Beam, 43.5 ft. Draught (mean), 13 ft. Disp.,  
 2970 tons.

I.H.P. 5230=17.5 kts. Coal cap., 490 tons.

Armour: Deck, 2.5 in.; engine coamings, 3 in.

Armament: 2-5.9 in.; 6-6 pr. Torpedo tubes, 5 above water,  
 broadside, stern, and two in bow. Compt. 282.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

## GUNBOATS.

## R

**INGOLF** . . . Copenhagen, 1876. Iron-built. Barque-rigged.  
1 funnel

Length, 193.5 ft. Beam, 27.6 ft. Draught (mean), 10.9 ft.  
Disp., 975 tons.

I.H.P. 600=10.5 kts. Coal cap., 130 tons.

Armament: 2-5.9 in. (old); 4-3.4 in. (old); 2 M.

Compt. 115.

(Training Ship.)

## R

**GRÖNSUND, GULDBORGSSUND** . . Copenhagen, 1883-84. Iron-built.  
1 funnel. 2 masts

Length, 119.5 ft. Beam, 20.6 ft. Draught (mean), 6.7 ft.  
Disp., 212 tons.

I.H.P. 400=11.5 kts. Coal cap., 45 tons.

Armament: 2-4.7 in. (old).

Compt. 46.

## R

**FALSTER** . . Copenhagen, 1873. Reboilered, 1896. Iron-built.  
1 funnel. 1 mast

Length, 112.2 ft. Beam, 29.5 ft. Draught (mean), 7 ft. Disp.,  
355 tons.

I.H.P. 500=9.8 kts. Coal cap., 19 tons.

Armament: 1-10 in. M.L.; 2-3.4 in. (old); 4 M.

Compt. 50.

(Training Ship for Mechanics.)

## R

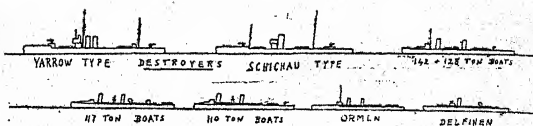
**ÖRESUND, LILLE BELT, STORE BELT** . . . Copenhagen, 1875.  
1 funnel. 1 mast

Length, 85.5 ft. Beam, 26.7 ft. Draught (mean), 6.3 ft. Disp.,  
237 tons.

I.H.P. 200=8 kts. Coal cap., 22 tons.

Armament: 1-10 in. M.L.; 2-3.4 in. (old); 4 M.

Compt. 30.



## TORPEDO BOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Compt.	Coal Cap.
N			ft.	ft.	ft.	tns.		kts.				tns.
Søridderen	'10	Y	181.7	18	7.5	236	4000	27.2	Y	2-3 in.; 5 tubes.	..	..
Sølvén	'11	B	181.7	18	7.5	236	4000	27.2	N		..	..
Flyvefisken	'11	B	181.7	18	7.5	236	4000	27.2	N		..	..
Tumleren	'10	S	184	19.7	6.9	246	4000	27.2	N		..	..
Spækhuggeren	'11	C	184	19.7	6.9	246	4000	27.2	N		..	..
Vindhunden	'11	C	184	19.7	6.9	246	4000	27.2	N		..	..
Hvalrosen	'13	C	184	19.7	6.9	246	4000	27.2	N		..	..
Delfinen	'13	C	184	19.7	6.9	246	4000	27.2	N		..	..
Sværdfisken	'13	C	184	19.7	6.9	246	4000	27.2	N		..	..
<b>O</b>												
Hajen	'96	C	150	15.7	7.5	142	2200	22	..	1-3 pr.;	..	..
Havørnen	'97	C	150	15.7	7.5	142	2200	22	..	1-1 pr.;	..	..
Søbjørnen	'98	C	150	15.7	7.5	142	2200	22	..	4 tubes.	..	..
Makrelen	'93	C	140	14.3	7	128	1300	22	..	2-1 pr.; 4 tubes.	..	16
Nordkaperen	'93	C	140	14.3	7	128	1300	22	..		20	16
Havhesten	'88	C	138	14	7	117	1200	21	..		20	15
Narhvalen	'88	C	138	14	7	117	1200	21	..		20	15
Støren	'87	C	131	14.7	6.7	110	1200	22	..		20	14
Sølvén	'87	C	131	14.7	6.7	110	1200	22	..		20	14
Ormen	'07	..	122.3	14	8.9	97	2000	26	..	2-1 pr.; 3 t.	..	..
<b>P</b>												
Springeren	'91	C	119	12.9	7.9	89	800	18	..	2-1 pr.; 1 t.	20	14
Nos. 12, 13	'88	T	78	9	4.9	25	350	18	..	1 M.; 2 tubes.	8	..
Nos. 10, 11	'88	T	70	8	4	17	180	15.5	..		6	..
Nos. 8, 9	'86	T	70	8	3.8	10	170	15.5	..		6	..
Nos. 6, 7	'84	T	67	8	4	15	170	15	..		6	..
No. 4	'82	T	63	7.5	4	15	150	16	..	1 M.; 1 tube.	6	..
No. 3	'80	T	95	11	4	38	450	18	..		6	..
No. 2	'79	T	94	10.5	5	33	350	20	..		6	..

NOTES.—Builders: Y=Yarrow, Scotstoun; B=Burmeister & Wain, Copenhagen; S=Schichau, Danzig; C=Copenhagen dockyard; T=Thornycroft, Chiswick. Boilers: Y=Yarrow; N=Normand; S=Schultz.

The three Yarrow type boats have Brown-Curtis turbines; the Schichau type have Schichau turbines.

in KVSS Prasad Rao

E. Mr Tariq Ahmed Karim

## SUBMARINES.

**S DYKKEREN** Spezia, 18.7.09. Ld. dn., 9.08. Fiat-San Giorgio type  
Length, 113.7 ft. Beam, 11 ft. Draught, 7.2 ft. Disp., 103/128  
tons.

I.H.P. 750/210=12/7.5 kts. 3 screws.

Engines: Benzine motors for surface, electric when submerged.

Armament: 2 torpedo tubes (4 torpedoes).

Compt. 9.

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<b>S HAYMANDEN</b>	Fiume (Whitehead), 1911
<b>HAVFRUEN</b>	Copenhagen (Dock Yard), 1911
<b>THETIS</b>	1912
<b>APRIL 2</b>	1913
<b>NAJADEN</b>	1913
<b>TRITON</b>	1914
<b>NYMFEN</b>	"
<b>ÆGIR</b>	"
<b>RAN</b>	"
<b>NEPTUN</b>	"
<b>GALATHEA</b>	"

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L., 127 ft. B., 11.8 ft. D., 7.5 ft. Disp., 160/200 tons.

I.H.P. 900/ =12.5/8.5 kts.

Engines: Diesel motors for surface, electric when submerged.

Armament: 2 torpedo tubes.

## MISCELLANEOUS.

**W BESKYTTEREN** . . . . . Copenhagen, 1900  
Length, 141.3 ft. Beam, 25 ft. Draught, 9.8 ft. Disp., 403 ons.  
I.H.P. 620=12 kts. Boilers, Babcock & Wilcox.  
Armament: 3-3 pr. (Torpedo Transport.)

---

**W HJÆLPEREN** . . . . . Copenhagen, 1890  
Length, 121.5 ft. Beam, 21.6 ft. Draught, . Disp., 285 tons.  
I.H.P. 330=10 kts.  
Armament: 3 M. (Torpedo Transport.)

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**W NYT** . . . . . Copenhagen, 1910. Laid down, 5.1.10  
**LOSSEN** . . . . .  
Length, 151 ft. Beam, 27.9 ft. Draught, 9.5 ft. Disp., 620 tons.  
I.H.P. 890=13 kts.  
Armament: 2-3 pr. Compt. 40.  
(Mine Layers.)

## SPECIAL SERVICE VESSELS AND HULKS.

X and Z.

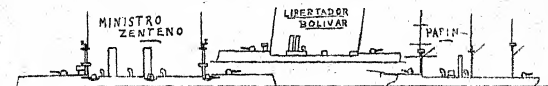
Name.	Date.	Length.	Beam.	Disp.	I.H.P.	Service.
		feet	feet	tons		
C. F. Grove .	'91	..	..	..	..	Light inspection vessel.
Sleipner .	..	..	..	1260	3000	Ice breaker.
Nos. 1 to 14 .	..	..	..	..	..	Torpedo transport.
Nos. 1 to 14 .	..	..	..	..	..	Troop transport boats.
Fyen .	'02	ex cruiser		2580	..	Floating barracks.
Jylland .	'60	ex frigate		2457	..	Receiving hulk.
Dagmar .	'61	ex corvette		1200	800	Training ship.
Esbern Snare	'62	ex cruiser		530	500	Torpedo school.
Sfinx .	'97	Cutter		..	..	Training ship.
Thyra .	'68	Cutter		..	..	Training ship.
Svanen .	'67	Cutter		..	..	Training ship.
Ornen .	'80	Brig		295	..	Training ship.
Niels Juel .	'55	ex frigates		2355	..	Receiving ships.
Sjælland .	'58					
St. Thomas .	'71	ex corvette		1570	..	Receiving ship.
Rolf Krake	'63	ex monitor		1330	..	Pontoon.
Fermad .	'73	..		..	..	Tugs.
X .	'93	..		55	100	
Y .	..	Steam pilot vessel.		..	..	..
Nos. 1 to 4 .	'72 to '84	..		..	..	Floating steam crane.
Nos. 1 to 5 .	..	..		..	..	Steam mining launches.
No. 21 .	'78	..		14	70	..
Nos. 4 to 72 .	'89	..		20	170/190	..
No. 83 .	'94	82	13	47	330	..
No. 93 .	'95	82	13	46	360	..
Ingolf <sup>4</sup> .	'76	193.5	27.6	975	590	Training ship.
Dannebrog <sup>5</sup> .	'79	198.7	26.5	760	1085	Royal yacht.
Willemoes <sup>6</sup> .	'61	114.3	17	143	240	Surveying.
Krieger <sup>6</sup> .	'61	114.3	17	143	240	Surveying.
Marstrand <sup>6</sup> .	'61	114.3	17	143	240	Surveying.

<sup>1</sup> 1 mach. gun.<sup>2</sup> 2 mach. guns; 2 spar torpedoes.<sup>3</sup> 14 kts.; 2 mach. guns; 1 torp. tube.<sup>4</sup> 2-4.7 in.; 2-6 pr.; 5 M.<sup>5</sup> 4-3.4 in.<sup>6</sup> 2-3 in. (14 pr.).

KVSS Prasad Rao

Mr Tariq Ahmed Karim

## ECUADOR



I

**MINISTRO ZENTENO** . Elswick, 1.2.96. Bought from Chili, 1908  
Length, 330 ft. Beam, 43.7 ft. Draught (mean), 16.9 ft. Disp.,  
3600 tons.

I.H.P. 7000=20 kts. Coal cap., 500 tons.

Armour: Deck, 3.5 in. (max.); C.T., 4 in.

Armament: 8-6 in.; 10-6 pr.; 4-1 pr.; 4 M. Torpedo  
tubes, 2 above water, broadside.

L

**LIBERTADOR BOLIVAR** } Birkenhead, 18.4.96. Bought from Chili, 1908  
ex *Almirante Simpson*

Length, 240 ft. Beam, 27.5 ft. Draught (mean), 12.9 ft.  
Disp., 858 tons.

I.H.P. 4500=21 kts. Coal cap., 100 tons.

Boilers, Normand.

Armour: Belt amidships, 1 in.; bulkheads, 1 in.; C.T., 1 in.

Armament: 2-4.7 in.; 4-3 pr.; 2 M. Torpedo tubes, 8-18 in.,  
bow and broadside.

R

**PAPIN** . . Toulon, 10.11.86. Bought from France, 1900. Composite  
Length, 199.5 ft. Beam, 23 ft. Draught, 12 ft. Disp., 800 tons.

I.H.P. 850=12 kts. Coal cap., 160 tons.

Armament: 2-5.5 in. (old); 1-3.9 in.; 5-1 pr.

Compt. 116.

X

**CATOPAXI** . . . . Port-Glasgow, 1884  
Length, 124.4 ft. Beam, 22.2 ft. 186 tons gross.

X

**NUEVE DE JULIO** . . . 1887. Two small guns.

Q

**TUNGURAHUA** . . . . . Poplar  
Length, 124.6 ft. Beam, 13 ft. Draught, 5 ft. Disp., 69 tons.  
Speed, 16 kts.

Armament: 2 small; 2 M.



## FRANCE

Establishment for 1919: 28 battleships, 10 scouts, 52 destroyers, 94 submarines, 4 minelayers, besides ships for foreign stations.

## BATTLESHIPS.

A\*

TOURVILLE . . . .	Projected.
LYONS . . . . .	„
LILLE . . . . .	„
DUQUESNE . . . .	„

Length, 623 ft. Disp., 29,500 tons.

I.H.P.

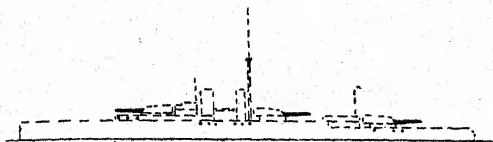
Engines:

Armour:

Armament: 16-13.4 in. (45 cal.) in 4 turrets; 28-5.5 in. (50 cal.)

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim



## A\*

FLANDRE . . .	Brest.	C.—	L. 20.10.14.	B. 9.10.13.	E. 1913
CASCOGNE . .	Lorient.	„ —	„ —	„ 1.10.13.	„ „
LANGUEDOC . .	La Seyne.	„ —	„ —	„ 28.4.13.	„ „
NORMANDIE . .	St. Nazaire.	„ —	„ 19.10.14.	„ 1.5.13.	„ „
BÉARN . . . .	„ —	„ —	„ —	„ 1914	„ 1914

Length, p.p. 574 ft. ; o.a. 623 ft. Beam, 91.8 ft. Disp., 24,800 tons.

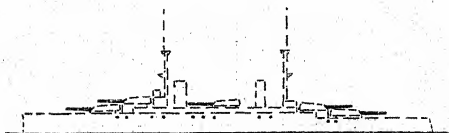
I.H.P. 32,000=21 kts.

Engines : 2 sets reciprocating on outer screws, 2 sets Parsons turbines on inner screws. Boilers, Normand-Sigandy.

Armour: Krupp. Complete belt, 13 ft. wide, 12.6 in. amidships, tapering to 7 in. at ends; main deck side amidships, 7.9 in. to 5.9 in.; turrets and barbettes, 12.6 in.; battery, 7.9 in.; C.T., 12.6 in.

Armament: 12-13.4 in. (45 cal.) in 3 quadruple turrets on centre line; 24-5.5 in. (50 cal.); 4-3 pr. Torpedo tubes, 6-18 in. submerged.

(Three of these ships belong strictly to the 1914 programme. *Béarn* is to replace the *Liberté*, lost in 1911. See also p. 235.)



A\*

<b>LORRAINE</b> . .	St. Nazaire.	C.—	L. 30.9.13.	B. 7.11.12.	E. 1912
<b>BRETAGNE</b> . .	Brest.	„ —	„ 21.4.13.	„ 22.7.12.	„ „
<b>PROVENCE</b> . .	Lorient.	„ —	„ 20.4.13.	„ 1.5.12.	„ „

Length, w.l. 541.3 ft. Beam, 88.6 ft. Draught (max.), 29.5 ft.  
Disp., 23,096 tons.

I.H.P. 28,605=20 kts. Coal cap., 886/2657 tons. Oil, 345 tons.

Engines: Parsons turbines. Boilers: *Lorraine*, Belleville;  
*Provence*, Niclausse; *Bretagne*, Guyot.

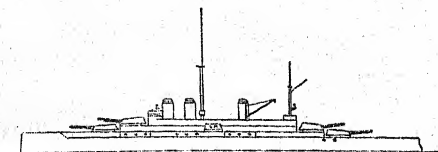
Armour: Krupp. Complete belt, 10.6 in. amidships, 7.1 in. at ends; lower deck side, 9.8 in. amidships, 5.9 in. at ends; turrets, 16.9 in. on fronts, 9.8 in. on sides with 10.6 in. barbettes; battery and main deck side amidships, 7.1 in.; conning tower, 11.8 in. deck, flat below belt, 2.7 in.; upper deck, 1.9 in.; funnel bases, etc., 7.1 in.

Armament: 10—13.4 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1 and No. 4 over No. 5; 22—5.5 in. (50 cal.), 18 in upper deck battery, 4 in main deck battery abreast of aftermost turrets; 4—3 pr. Torpedo tubes, 4—18 in. submerged, broadside.

Compt. 1109.

Mr KVSS Prasad Rao

Mr H.E. Mr Tariq Ahmed Karim



## A

<b>PARIS.</b>	La Seyne.	C. 1914	L. 28.9.12.	B. 30.11.11.	E. 1911
<b>FRANCE.</b>	St. Nazaire.	„ 1914	„ 7.11.12.	„ 1.11.11.	„ „
<b>JEAN BART.</b>	Brest.	„ 8.4.13	„ 22.9.11.	„ 10.11.10.	„ 1910
<b>COURBET</b>	Lorient.	„ 5.6.13	„ 23.9.11.	„ 1.9.10.	„ „

Length, w.l. 541.3 ft. Beam, 88.6 ft. Draught (max.), 29.5 ft.  
Disp., 23,096 tons.

I.H.P. 28,605=20 kts. Coal cap., 886/2657 tons.

Engines: Parsons turbines, 4 screws. Boilers: *Paris* and *Jean Bart*, Belleville; *France* and *Courbet*, Niclausse.

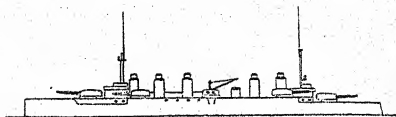
Trials: *Courbet*, I.H.P. = 20.8 kts.; *Jean Bart*, I.H.P. = 21.1 kts.

Armour: Krupp. Complete belt, 16.1 ft. wide (7.9 ft. above water), 10.6 in. amidships, 7.1 in. at ends; turrets and barbettes, 10.6 in.; battery and main deck side amidships, 7.1 in.; C.T., 11.8 in.; deck, flat below belt, 2.7 in.; upper deck, 1.9 in.; funnel bases, etc., 7.1 in.

Armament: 12—12 in. (50 cal.) in pairs in turrets, two forward, two aft, one on each beam, No. 2 firing over No. 1, and No. 5 over No. 6; 22—5.5 in. (50 cal.), 18 in upper deck battery, 4 in main deck battery abreast of aftermost turrets; 4—3 pr. Torpedo tubes, 4—18 in. submerged, broadside.

Compt. 941.

## FRANCE:



## B

<b>DANTON</b>	. . . Brest,	4.7.09.	Laid down,	3.2.08.	Ests. 1908
<b>MIRABEAU</b>	. . . Lorient,	28.10.09.	"	4.5.08.	"
<b>VOLTAIRE</b>	. . . La Seyne,	16.1.09.	"	8.6.07.	"
<b>DIDEROT</b>	. . . St. Nazaire,	19.4.09.	"	10.07.	"
<b>CONDORCET</b>	. . . Penhoët,	21.4.09.	"	8.07.	"
<b>VERGNAUD</b>	. . . Bordeaux,	12.4.10.	"	11.07.	"

Length, w.l. 475.6 ft.; o.a. 481 ft. Beam, 84 ft. Draught (max.), 27.5 ft. Disp., 18,028 tons.

I.H.P. 22,193=19.2 kts. Coal cap., 910/1978 tons.

Engines: 4 sets Parsons turbines, 4 shafts. \**Danton*, *Mirabeau*, and *Vergniaud* by La Seyne, with Belleville boilers; others by Penhoët, with Niclausse boilers.

Trials: *Danton*, I.H.P. =19.4 kts; *Voltaire*, I.H.P. =19.8 kts.; *Mirabeau*, I.H.P. =19.7 kts.; *Diderot*, I.H.P. =19.5 kts.; *Vergniaud*, I.H.P. =19.2 kts.; *Condorcet*, I.H.P. =19.3 kts.

Armour: Krupp. Complete belt, 6.5 ft. wide, 10.6 in. at top, 3.1 in. at bottom amidships, 7.1 in. at top, 2.3 in. at bottom at ends; lower deck side, 9.8 in. amidships, 3.1 in. at bow; main deck side for 115 ft. from bow, 2.5 in.; bulkheads, forward, 7 in.; aft, 7.8 in.; main turrets, 11.8 in.; barbettes, 11 in.; secondary turrets, 8.7 in.; barbettes, 7.8 in.; C.T., 11.8 in.; tube, 8.7 in.; deck, flat below belt, 1.9 in.; upper deck, 1.9 in.; lateral armoured bulkheads from protective deck to bilges.

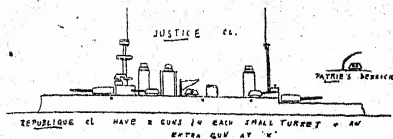
Armament: 4-12 in. (50 cal.) in pairs in turrets f. and a.; 12-9.4 in. (50 cal.) in pairs in turrets on beam; 16-2.9 in. (14 pr.); 10-3 pr. Torpedo tubes, 2-18 in. submerged on broadside.

Compt. 681.

Mr KVSS Prasad Rao

Mr Tariq Ahmed Karim

## BATTLE-SHIPS



**JUSTICE** . . . La Seyne, 17.12.03. Laid down, 02. Ests. 1902  
**DÉMOCRATIE** . . Brest, 24.04. " 15.03. "  
**VÉRITÉ** . . . Bordeaux, 23.5.07. " 03. "  
 Length, w.l. 439 ft.; o.a. 452 ft. Beam, 79.5 ft. Draught (max.), 27.6 ft. Disp., 14,630 tons.

I.H.P. 17,750=18 kts. Coal cap., 890/1796 tons. 3 screws.  
 Engines: 3 sets 3 expan. *Justice* by builders; *Démocratie* by St. Nazaire; *Vérité* by Crenset. Boilers: *Justice*, Niclausse; others, Belleville.

Trials: *Justice*, I.H.P. 18,285=19.4 kts; *Démocratie*, I.H.P. 18,830=19.5 kts.; *Vérité*, I.H.P. 20,154=19.2 kts.

Armour: Krupp. Complete belt to within 13 ft. of stern, 6.5 in. wide, 11 in. at top, 3.1 at bottom amidships, 7.1 in. at top, 3.1 in. at bottom at ends; lower deck side, 9.4 in. amidships, 5.5 in. at ends; main deck side forward, 3.1 in., with 5.5 in. B.H. at after end; B.H. at stern, 7.9 in.; main turrets, 12.6 in.; barbettes, 11 in.; casemates and secondary turrets, 7.9 in.; barbettes, 7.1 in.; hoists, 3.1 in.; C.T., 11.8 in.; deck, 2.1 in. on flat, 2.9 in. on slopes; upper deck forward and main deck elsewhere, 2.1 in.

Armament: 4—12 in. (45 cal.) in two turrets f. and a.; 10—7.6 in. (45 cal.) singly in 6 turrets and 4 casemates; 13—9 pr.; 10—3 pr. Torpedo tubes, 2—18 in. submerged, broadside.

Compt. 742.

(The *Liberté* of this class was destroyed by explosion in 1911.)

## C

**RÉPUBLIQUE** . . Brest, 4.9.02. Laid down, 2.12.01. Ests. 1901  
**PATRIE** . . . La Seyne, 17.12.03. 02.

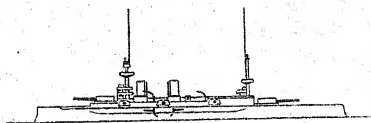
Engines: *République* by Indret; *Patrie* by builders. Boilers, Niclausse.

Trials: *République*, I.H.P. 19,360=19.1 kts.; *Patrie*, I.H.P. 18,750=19.5 kts.

Armour: Secondary turrets, 6.6 in.; barbettes, 5.5 in.; casemates, 5.5 in.

Armament: Secondary guns, 18—6.4 in. (45 cal.), twelve in pairs in turrets, six in casemates.

All other details as for *Justice* class.



C

**SUFFREN** . . . . Brest, 25.7.99. Laid down, 16.1.99. Ests. 1898

Length, w.l. 410 ft.; o.a. 422.5 ft. Beam, 70 ft. Draught (max.), 27.5 ft. Disp., 12,527 tons.

I.H.P. 15,980=18 kts. Coal cap., 807/1172 tons. 3 screws. Also oil fuel.

Engines: 3 sets 3 expans. by Indret. Boilers, Niclausse.

Trials: I.H.P. 16,494=18 kts.

Armour: Harvey. Complete belt, 8.2 ft. wide, 11.9 in. amidships, and 9 in. at ends at top; 4.7 in. at bottom; bulkheads, 9.9 in.; lower deck side, 5.1 in.; amidships, 3.5 in. at bow; main turrets, 12.6 in.; barbettes, 11 in.; hoists, 7.9 in.; battery, secondary turrets, and hoists, 5.1 in.; C.T., upper compartment, 11.8 in., lower compartment, 9.9 in., tube, 5.9 in.; deck, flat below belt, 1.5 in.; upper protective deck, flat on top of belt, 2.7 in.

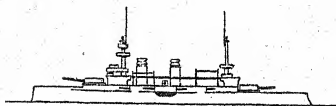
Armament: 4-12 in. (45 cal.) in two turrets f. and a.; 10-6.4 in. (45 cal.), six singly in casemates on upper deck, four in battery on main deck; 8-3.9 in. (55 cal.) on superstructure; 22-3 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 730.

(The *Jéna*, a very similar ship of 12,000 tons, launched in 1898, was destroyed by an explosion in 1907.)

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim



## C

<b>CHARLEMAGNE.</b>	Brest,	17.10.95.	Laid down, 2.7.94.	Ests. 1894
<b>ST. LOUIS</b>	Lorient,	8.9.96.	„ 25.3.95.	„ 1894
<b>GAULOIS</b>	Brest,	6.10.96.	„ 8.1.96.	„ 1895

Length, w.l. 381 ft. ; o.a. 385.5 ft. Beam, 67.5 ft. Draught (mean), 25.9 ft. (max.), 28 ft. Disp., 11,082 tons.

I.H.P. 14,300=18 Kts. Coal cap., 670/1065 tons. Also oil fuel. 3 screws.

Engines: 3 sets 3 expans. *Gaulois* by St. Nazaire, others by builders. Boilers, Belleville.

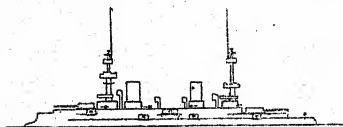
Trials: *Charlemagne*, I.H.P. 15,086=18.1 kts. ; *St. Louis*, I.H.P. 14,696=18.3 kts. ; *Gaulois*, I.H.P. 14,760=18.2 kts.

Armour: Harvey. Complete belt, 6.6 ft. wide, 15.7 in. amidships, and 9.9 in. at ends at top, 5.9 in. at bottom; lower deck side for about 130 ft. from bow, and narrow belt 3.3 ft. wide on lower deck for rest of length, 3 in. ; turrets, 15.7 in. ; barbettes, 10.6 in. ; hoists, 7.9 in. ; battery, 3 in. ; C.T., 11.8 in. ; deck, flat below belt, 1.6 in. ; upper protective deck, flat on top of belt, 3.5 in. ; amidships, 1.6 in. at ends.

Armament: 4-12 in. (40 cal.) in two turrets f. and a. ; 10-5.5 in. (45 cal.), eight in battery and two in shields above battery ; 8-3.9 in. (45 cal.) on superstructure ; 20-3 pr. Torpedo tubes, 4-18 in. submerged on broadside.

Compt. 631.



**C**

**MASSÉNA** . . St. Nazaire, 24.7.95. Laid down, 1892. Ests. 1892

Length, p.p. 370.5 ft. ; o.a. 384 ft. Beam, 66.2 ft. Draught (mean), 26.2 ft. ; (max.), 27.6 ft. Disp. **11,735 tons.**

I.H.P. 13,500=17.5 kts. Coal cap., 625/787 tons. 3 screws.

Engines : 3 sets 3 expans. by builders. Boilers, Lagrafel d'Allest.

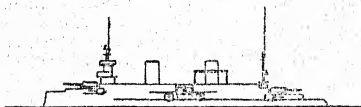
Trials : I.H.P. 14,106=17.1 kts.

Armour : Harvey. Belt to within 50 ft. of stern, 7.4 ft. wide, 17.7 in. at top and 13.8 in. at bottom amidships, 9.8 in. at ends ; bulkhead at stern, 9.4 in. ; narrow belt on lower deck, 3.9 in. ; main turrets, 14.6 in. ; barbettes, 15.7 in. ; secondary turrets and bases, 3.9 in. ; C.T., 15.7 in. ; deck, sloping, 3.5 in. ; flat deck below this, 1.6 in.

Armament : 2—12 in. (40 cal.) in turrets f. and a. ; 2—10.8 in. (40 cal.) in turrets on beam ; 8—5.5 in. (45 cal.), singly in turrets ; 8—3.9 in. (55 cal.) ; 12—3 pr. ; 8—1 pr. Torpedo tubes, 2—18 in. submerged.

Compt. 617.

(*Bouvet*, a very similar ship of 12,007 tons, sunk 1915.)

**CARNOT**

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim

**CARNOT** . . . Toulon, 12.7.94. Laid down, 8.91. Estimates, 1891

Length, w.l. 374; o.a. 380.6 ft. Beam, 70.5 ft. Draught (mean), 27.2 ft.; (max.), 28 ft. Disp., 11,954 tons.

I.H.P. 14,800=18 kts. Coal cap., 492/688 tons. 2 screws.

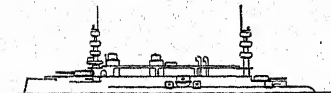
Engines: 2 sets 3 expans. by Indret. Boilers, Lagrafel d'Allest.

Trials: I.H.P. 16,008=17.8 kts.

Armour: Creusot. Complete belt, 7.4 ft. wide, 17.7 in. amidships and 13.8 in. forward at top, 9.8 in. at bottom, 9.5 in. at top, and 6.3 in. at bottom aft; narrow belt on lower deck, 4 ft. wide, 3.9 in.; main turrets, 14.6 in.; barbettes, 12.6 in.; secondary turrets and bases, 3.9 in.; C.T., 8.7 in.; deck, sloping, 2.7 in.; flat deck below this, 1.6 in.

Armament: 2-12 in. (45 cal.) in turrets f. and a.; 2-10.8 in. (45 cal.) in turrets on beam; 8-5.5 in. (45 cal.) singly in turrets; 4-9 pr.; 18-3 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 631.



**C**  
**CHARLES MARTEL** . . . Brest, 20.8.93. Laid down, 1.8.91. Ests. 1891

Length, p.p. 378.9 ft.; o.a. (and w.l.), 393.7 ft. Beam, 71.1 ft.

Draught (mean), 26.1 ft.; (max.), 27.7 ft. Disp., 11,693 tons.

I.H.P. 14,300=18 kts. Coal cap., 656/985 tons. 2 screws.

Engines: 2 sets 3 expans. Boilers, Lagrafel d'Allest.

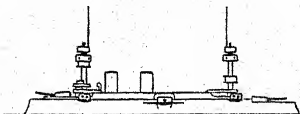
Trials: I.H.P. 14,792=18.1 kts.

Armour: Creusot. Complete belt, 7.4 ft. wide, 17.7 in. amidships and 13.8 in. forward at top, 9.8 in. at bottom, 12.2 in. at top, and 6.7 in. at bottom aft; narrow belt on lower deck, 4 ft. wide, 3.9 in.; main turrets, 14.6 in.; barbettes, 12.6 in.; secondary turrets and bases, 3.9 in.; C.T., 8.7 in.; deck, flat, 2.7 in.; second deck below this, 1.6 in.

Armament: 2-12 in. (45 cal.) in turrets f. and a.; 2-10.8 in. (45 cal.) in turrets on beam; 8-5.5 in. (45 cal.) singly in turrets; 4-9 pr.; 18-3 pr. Torpedo tubes, 2-18 in. submerged, broadside.

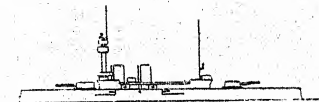
Compt. 632.

C



**JAURÉGUIBERRY** . La Seyne, 27.10.93. Ld. dn. 23.4.91. Ests. 1891  
 Length, p.p. 357 ft.; w.l. 364 ft. Beam, 72.5 ft. Draught  
 (max.), 29 ft. Disp., 11,637 tons.  
 I.H.P. 14,800=18 kts. Coal cap., 738/1083 tons. 2 screws.  
 Trials: I.H.P. 15,715=18.1 kts. Boilers, Lagrafel d'Allest.  
 Armour: Creusot. Complete belt, 7.8 ft. wide, 17.7 in. amid-  
 ships, 9.8 in. forward, and 7.9 in. aft at top, 9.8 in. amidships,  
 3.9 in. forward and 5.9 in. aft at bottom; narrow belt on  
 lower deck, 3.9 in.; main turrets, 14.6 in.; barbettes, 12.6  
 in.; secondary turrets and hoists, 3.9 in.; C.T., 9 in.;  
 deck, flat on belt, 2.7 in.; deck below this, 1.6 in.  
 Armament: 2-12 in. (45 cal.) in turrets f. and a.; 2-10.8 in.  
 (45 cal.) in turrets on beam; 8-5.5 in. (45 cal.) in pairs in  
 turrets; 4-9 pr.; 16-3 pr. Torpedo tubes, 2-18 in.,  
 submerged. Compt. 640.

C



**BRENNUS** . . . . . Lorient, 17.10.91. Laid down, 2.1.89  
 Length, p.p. 361 ft.; o.a. (and w.l.) 374.9 ft. Beam, 65.6 ft.  
 Draught (mean), 26.2 ft.; (max.), 27.5 ft. Disp., 11,190 tons.  
 I.H.P. 13,415=17.5 kts. Coal cap., 542/787 tons.  
 Trials: I.H.P. 13,870=17.1 kts. Boilers, Belleville.  
 Armour: Creusot. Complete belt, 7.5 ft. wide, 15.8 in. amid-  
 ships, and 11.8 in. at ends at top; 11.8 in. amidships and  
 9.8 in. at ends at bottom; lower deck belt, 4.5 ft. wide at  
 bow, 3.6 ft. elsewhere; 4.3 in.; main turrets, 17.7 in. to 7.9  
 in.; bases, 7.9 in.; secondary turrets and battery, 4.3 in.;  
 C.T., 4.3 in.; deck, curved, 3.1 in. to 2.8 in.  
 Armament: 3-13.4 in. (42 cal.), two in turrets forward, one in  
 turret aft; 10-6.4 in. (45 cal.), four singly in turrets, six in  
 battery; 4-9 pr.; 14-3 pr. No torpedo tubes.  
 Compt. 672.

- Shri KVSS Prasad Rao

- H.E. Mr Tariq Ahmed Karim

**D**

**HENRI IV.** . . . . Cherbourg, 23.8.99. Laid down, 15.7.97

Length, p.p. 325 ft.; o.a. 354 ft. Beam, 73 ft. Draught (mean), 23 ft.; (max.), 24.6 ft. Disp., 8807 tons.

I.H.P. 11,345=17 kts. Coal cap., 714/1083 tons.

Engines: 3 sets 3 expans. by Indret. Boilers, Niclausse.

Armour: Harvey-nickel. Complete belt, 7.5 ft. wide, 11 in. at top, 7.1 in. at bottom amidships, 7.1 in. at top, 3.2 in. at bottom at ends; bulkheads, 9.8 in.; lower deck side amidships and forward, 4.5 in.; main turrets, 10.6 in.; barbettes, 8.3 in.; battery and secondary turret, 4.5 in.; C.T., 9.4 in.; deck, flat on belt, 4.9 in. to 2.9 in.; deck, flat below belt, side from belt to bilge and lateral bulkheads, all 1.3 in.

Armament: 2-10.8 in. (45 cal.) in turrets f. and a.; 7-5.4 in. (45 cal.), six in battery, one in turret aft; 12-3 pr.; 2 M.

Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 460.

**BATTLESHIP FOR SPECIAL SERVICE.****D**

**MARCEAU** . . . . La Seyne, 24.5.87. Reconstructed, 1902

Length, p.p. 330 ft. Beam, 65.6 ft. Draught (mean), 27.2 ft. Disp., 10,723 tons.

I.H.P. 11,835=16 kts. Coal cap., 540/885 tons.

Engines: 2 sets compound. Boilers, Niclausse.

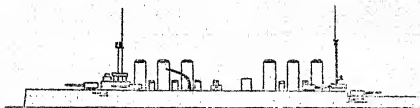
Armour: Compound. Complete belt, 17.7 in. amidships and aft, 11.4 in. forward, at top; 13.8 in. amidships, 7.9 in. at ends, at bottom; barbettes, 12.6 in., with 7.9 in. hoists; C.T., 4.7 in.; deck, sloping, 4.9 in. to 3.1 in.

Armament: 4-13.4 in. (30 cal.) in barbettes f. and a. and one on each beam; 10-5.5 in. (45 cal.); 4-9 pr.; 12-3 pr.; 8-1 pr. Torpedo tubes 6, above water.

Compt. 650.

(Torpedo School Ship.)

## ARMoured CRUISERS.



## F

**WALDECK-ROUSSEAU**. . . Lorient, 4.3.08. Ld. dn. 15.6.06. Ests. 1906

**EDGAR QUINET**. . . . . Brest, 21.9.07, „ 6.11.05. „ 1905

Length, p.p. 515 ft. Beam, 70.5 ft. Draught (mean), 26.9 ft.  
Disp., 13,780 tons.

I.H.P. 35,510=23.5 kts. Coal cap., 1222/2264 tons.

Engines: 3 sets 3 expans. Boilers, *Waldeck-Rousseau*, Niclausse;  
*Edgar Quinet*, Belleville.

Trials: *Waldeck-Rousseau*, I.H.P. 34,846=23.6 kts.; *Edgar Quinet*, I.H.P. 39,262=23.9 kts.

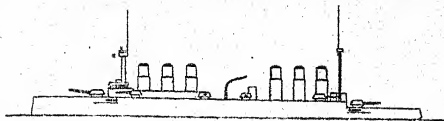
Armour: Krupp. Belt from bow to within 35 ft. of stern, 12.2 ft. wide, 6.7 in. on w.l., 5.1 in. at top, 3.5 in. at bottom amidships, tapering to 3.5 in. on w.l. and 2 in. at edges at ends; main deck side forward, 2 in.; B.H., aft, 5.9 in.; turrets, 5.9 in., with 4.9 in. barbettes; casemates, 5.9 in.; C.T., 7.9 in.; deck, sloping, 2.5 in. to 1.8 in.; main deck, 1.3 in.

Armament: 14—7.6 in. (45 cal.), four in pairs in turrets f. and a., six singly in turrets on beam, and four in casemates; 18—9 pr.; 8—3 pr.; 2—1 pr. Torpedo tubes, 2—18 in. submerged, broadside.

Compt. 834.

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim



F

**ERNEST RENAN** . . . . St. Nazaire, 9.3.06. Laid down, 1.10.03

Length, p.p. 515 ft. Beam, 70.1 ft. Draught (mean), 26.9 ft.

Disp., 13,428 tons.

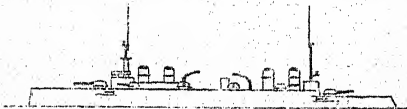
I.H.P. 35,510=23.5 kts. Coal cap., 1333/2264 tons.

Engines: 3 sets 3 expans. by builders. Boilers, Niclausse.

Trials: I.H.P. 36,495=24.4 kts.

Armour: Krupp. Belt from bow to within 35 ft. of stern, 12.2 ft. wide, 6.7 in. on w.l., 4.9 in. at top, 3.5 in. at bottom amidships, tapering to 3.5 in. on w.l. and 2.2 in. at edges at end; B.H. aft, 5.9 in.; main deck side forward, 2.2 in.; main turrets, 5.9 in., with barbettes, 5.1 in.; secondary turrets, 3.9 in., with barbettes, 5.1 in.; casemates, 5.9 in.; C.T., 7.9 in.; deck, sloping, 2.5 in. to 1.8 in.; main deck, 1.3 in. to .8 in.

Armament: 4-7.6 in. (45 cal.) in pairs in turrets f. and a.; 12-6.4 in. (50 cal.), eight singly in turrets, four in casemates; 16-9 pr.; 8-3 pr.; 2-1 pr. Torpedo tubes, 2-18 in. submerged, broadside. Compt. 786.



F

**JULES MICHELET** . . . . Lorient, 31.8.05. Laid down, 1.6.04

Length, p.p. 489 ft. Beam, 70.1 ft. Draught (mean), 26.9 ft.

Disp., 12,372 tons.

I.H.P. 28,605=22 kts. Coal cap., 1329/2067 tons.

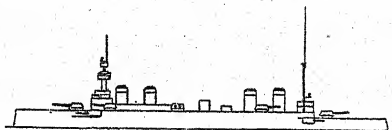
Engines: 3 sets 3 expans. Boilers, Du Temple-Guyot.

Trials: I.H.P. 29,780=22.8 kts.

Armour: As in *Ernest Renan*.

Armament: As in *Ernest Renan*, but no 9 pr., and 24-3 pr.

Compt. 728.



F

<b>VICTOR HUGO</b>	Lorient,	3.04.	Laid down, 4.03
<b>JULES FERRY</b>	Cherbourg,	23.8.03.	„ 10.01
<b>LÉON GAMBETTA</b>	Brest,	26.10.01.	„ 15.1.01

Length, p.p. 476 ft. Beam, 70.1 ft. Draught (mean), 26.9 ft.  
Disp., 12,352 tons.

I.H.P. 27,125 = 22 kts. Coal cap., 1329/2067 tons.

Engines: 3 sets 3 expans. *Léon Gambetta* by Penhoët, others by Indret. Boilers: *Victor Hugo*, Belleville; *Jules Ferry*, Du Temple-Guyot; *Léon Gambetta*, Niclausse.

Trials: *Victor Hugo*, I.H.P. 28,039 = 22.8 kts.; *Jules Ferry*, I.H.P. 28,800 = 23 kts.; *Léon Gambetta*, I.H.P. 28,602 = 23.1 kts.

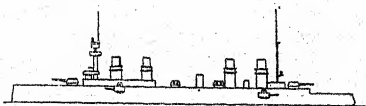
Armour: Krupp. Belt from bow to within 35 ft. of stern, 12.2 ft. wide, 6.7 in. on w.l., 4.9 in. at top, 3.2 in. at bottom amidships, tapering to 3.2 in. on w.l. and 2.2 in. at edges at ends; bulkhead, aft, 5.9 in.; main deck side forward, 2.2 in.; main turrets, 7.9 in., with barbettes, 5.5 in.; secondary turrets, barbettes, and casemates, 5.5 in.; C.T., 7.9 in.; deck, sloping, 2.5 in. to 1.8 in.; main deck, 1.3 in. to .8 in.

Armament: 4—7.6 in. (45 cal.) in pairs in turrets f. and a.; 16—6.4 (45 cal.), twelve in pairs in turrets, four in casemates; 24—3 pr.; 2—1 pr. Torpedo tubes, 2—18 in. submerged, broadside.

Compt. 725.

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim



F

<b>AMIRAL AUBE</b> . . .	St. Nazaire, 9.5.02.	Laid down, 9.8.00
<b>CONDÉ</b> . . . . .	Lorient, 12.3.02.	„ 20.3.01
<b>MARSEILLAISE</b> . . .	Brest, 14.7.00.	„ 1.00
<b>GLOIRE</b> . . . . .	Lorient, 27.6.00.	„ 5.9.99

Length, p.p. 452.7 ft. Beam, 65.3 ft. Draught (mean), 25.2 ft.  
Disp., 9842 tons.

I.H.P. 20,220=21 kts. Coal cap., 955/1664 tons.

Engines: 3 sets 3 expans. *Amiral Aube* and *Marseillaise*, by St. Nazaire; *Condé*, by La Seyne; *Gloire*, by Indret. Boilers, *Amiral Aube* and *Marseillaise*, Belleville; others, Niclausse.

Trials: *Amiral Aube*, I.H.P. 21,853=21.9 kts.; *Condé*, I.H.P. 21,873=21.3 kts.; *Marseillaise*, I.H.P. 21,722=21.6 kts.; *Gloire*, I.H.P. 21,108=21.3 kts.

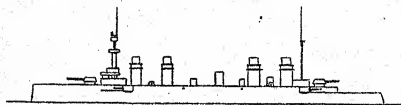
Armour: Krupp. Belt from bow almost to stern, 12.2 ft. wide, 6.7 in. on w.l., 5.5 in. at top, 3.2 in. at bottom amidships, tapering to 4 in. on w.l. and 2.2 in. at edges at ends; bulkheads, 3.9 in.; main deck side forward, 2.2 in.; main turrets, 7.9 in., with barbettes, 3.9 in.; casemates and secondary turrets, 4.7 in., with barbettes, 3.9 in.; C.T., 7.9 in.; deck, sloping, 1.8 in.; main deck, 1.2 in. to 0.8 in.

Armament: 2-7.6 in. (40 cal.) in turrets f. and a.; 8-6.4 in. (45 cal.), four singly in turrets and four in casemates; 6-3.9 in. (55 cal.); 18-3 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 607.

(The *Sully* of this class was lost in 1905.)





F

<b>DUPETIT THOUARS</b>	Toulon, 5.7.01.	Laid down, 17.4.99
<b>MONTCALM</b>	La Seyne, 27.8.00.	„ 25.1.98
<b>GUEYDON</b>	Lorient, 20.9.99.	„ 5.97

Length, p.p. 452.7 ft. Beam, 63.6 ft. Draught (mean), 24.4 ft.  
Disp., 9367 tons.

I.H.P. 19,330=21 kts. Coal cap., 984/1575 tons. Oil, tons.

Engines: 3 sets 3 expans. *Montcalm*, by builders; others, by Indret. Boilers, *Dupetit Thouars*, Belleville; *Montcalm*, Normand; *Gueydon*, Niclausse.

Trials: *Dupetit Thouars*, I.H.P. 21,650=22.2 kts.; *Montcalm*, I.H.P. = kts.; *Gueydon*, I.H.P. 19,730=21.4 kts.

Armour: Harvey nickel. Belt from bow almost to stern, 11.5 ft. wide, 5.9 in. on w.l., 3.7 in. at edges amidships, tapering to 3.2 in. on w.l. and 2.2 in. at edges at ends; bulkheads, aft, 3.4 in.; main deck side forward, 2.2 in.; turrets, 7.9 in., with barbets, 4.7 in.; casemates, 3.9 in.; C.T., 6.3 in.; deck, sloping, 2 in. to 1.2 in.

Armament: 2-7.6 in. (40 cal.) in turrets f. and a.; 8-6.4 in. (45 cal.) in casemates; 4-3.9 in. (55 cal.); 16-3 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 540.



— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim

## F

**JEANNE D'ARC** . . . Toulon, 8.6.99. Laid down, 24.10.96

Length, p.p. 475.6 ft. Beam, 63.6 ft. Draught (mean), 24.6 ft.

Disp., 11,092 tons.

I.H.P. 28,110=23 kts. Coal cap., 1378/2067 tons. Oil, 100 tons.

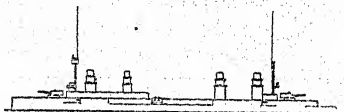
Engines: 3 sets 3 expans. Boilers, Du Temple.

Trials: I.H.P. 29,490=21.7 kts.

Armour: Harvey. Complete belt, 7.2 ft. wide, 5.9 in. at top, 3.9 in. at bottom amidships, tapering to 3.9 in. forward and 3.1 in. aft; lower deck side, 3.1 in. to 2.8 in.; main and upper deck side forward, 1.6 in.; turrets, 7.3 in., with 7.9 in. barbettes and 3.9 in. hoists; casemates, 3 in.; C.T., 5.9 in.; deck, sloping, 2.2 in.

Armament: 2-7.6 in. (40 cal.) in turrets f. and a.; 14-5.5 in. (45 cal.), eight in casemates, six in shields; 16-3 pr.; 8-1 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 626.



## G

**KLÉBER** . . . Bordeaux, 20.9.02. Laid down, 1899

**DESAIX** . . . St. Nazaire, 20.3.01 " 18.1.99

**DUPLEIX** . . . Rochefort, 28.4.00 " 1899

Length, p.p. 426.5 ft. Beam, 58.3 ft. Draught (mean), 24.3 ft. Disp., 7578 tons.

I.H.P. 16,870=21 kts. Coal cap., 866/1180 tons.

Trials: *Kléber*, I.H.P. 17,498=21.2 kts.; *Desaix*, I.H.P. 17,734=21.6 kts.; *Dupleix*, I.H.P. 17,473=20.9 kts.

Armour: Krupp. Belt from bow to after turret, 7.2 ft. wide, 4 in. amidships, 3.3 in. forward at top, 1.5 in. at bottom; B.H., aft, 3.3 in.; turrets and barbettes, 3.9 in. to 2 in.; C.T., 5.5 in.; deck, sloping, 2.8 in. to 1.7 in.

Armament: 8-6.4 in. (45 cal.) in pairs in turrets f. and a. and on each beam; 4-3.9 in. (55 cal.); 10-3 pr. Torpedo tubes, 2-18 in. above water.

Compt. 510.



a

**POTHUUAU** . . . . . Gravelle, 1895. Laid down, 1893

Length, p.p. 360 ft. ; o.a. (and w.l.) 370.6 ft. Beam, 50.1 ft.

Draught (mean), 21.3 ft. Disp., 5280 tons.

I.H.P. 9865=19 kts. Coal cap., 530 tons.

Engines: 2 sets horiz. 3 expans. Boilers, Belleville.

Armour: Steel. Complete belt to main deck, 2.4 in. amidships,  
 1.3 at ends; turrets, 7.1 in. to 5.5 in., with 3.2 in. bases;  
 casemates, 2.2 in.; C.T., 9.4 in.; deck, sloping, 3.3 in. to  
 1.4 in.

Armament: 2-7.6 in. (40 cal.) in turrets f. and a.; 10-5.5 in.  
 (45 cal.), eight in casemates, two in shields; 10-3 pr.; 8-1  
 pr. Torpedo tubes, 4-18 in. above water, broadside.

Compt. 460.

(Gunnery School Ship.)

a

**BRUIX** . . . . . Rochefort, 3.8.94. Laid down, 11.91**AMIRAL CHARNER** . . Rochefort, 18.3.94. " 9.89**LATOCHE TRÉVILLE**. Havre, 8.10.92. " 1890

Length, p.p. 347.8 ft. Beam, 45.9 ft. Draught (mean), 19.6 ft.

Disp., 4680 tons.

I.H.P. 8190=18.5 kts. Coal cap., 400 tons.

Engines: 2 sets horiz. 3 expans. Boilers, Belleville.

Armour: Steel. Complete belt to main deck, 3.5 in. amidships,  
 2.7 in. at ends; turrets, 3.9 in., with 4.2 in. hoists; C.T.,  
 3.6 in.; deck, sloping, 2.5 in. to 2.2 in.

Armament: 2-7.6 in. (45 cal.) in turrets f. and a.; 6-5.5 in.  
 (45 cal.) singly in turrets on beam; 4-9 pr.; 4-3 pr.; 6-  
 1 pr. Torpedo tubes, 4-18 in. above water, broadside.

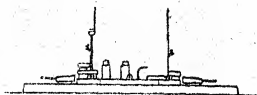
Compt. 370.

(*Chanzy* of this class wrecked in 1907.) (*Latouche Tréville*,  
 Gunnery School Ship.)

Shri KVSS Prasad Rao

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## COAST-DEFENCE SHIP.

**D**

**REQUIN** . . . . . Bordeaux, 1885. Rebuilt, 1901

L., p.p. 278.2 ft. B., 59 ft. D. (mean), 23.6 ft. Disp., 7677 tons.

I.H.P. 5920 = 15 kts. Coal cap., 394/788 tons.

Engines: 2 sets compound. Boilers, Nielausse.

Armour: Compound. Complete belt, 7.5 ft. wide, 19.6 in. amidships, tapering to 12.6 in. at ends; turrets, 9.4 in.; barbettes, 8.3 in. (both steel); C.T., 11.8 in.; deck, flat on belt, 3.9 in. to 3.1 in.

Armament: 2-10.8 in. (40 cal.) in turrets f. and a.; 6-3.9 in.; 10-3 pr.; 2-1 pr.

Compt. 332.

## CRUISERS.

**G**

— . . . . To be laid down, 1914.

— . . . . " "

— . . . . " "

— . . . . Projected.

— . . . . "

— . . . . "

Length,

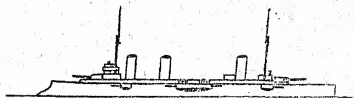
Disp., 6500 tons.

I.H.P. 32,000 = 28 kts.

Engines:

Armour:

Armament: 10-5.5 in. (45 cal.)

**H**

**D'ENTRECASTEAUX** . . . La Seyne, 1.6.96. Laid down, 28.6.94

Length, p.p. 386.7 ft.; w.l. 393.5 ft. Beam, 58.5 ft. Draught (mean), 24.6 ft. Disp., 7986 tons.

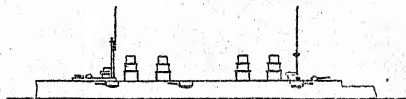
I.H.P. 13,315=19.5 kts. (19.2 on trial). Coal cap., 640/984 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical. Oil, tons.

Armour: Deck, 3.3 in. on slopes, 1.2 in. on flat; longitudinal bulkheads, 4.3 ft. from side, 1.6 in.; turrets, 9.1 in. to 7.5 in.; casemates, 2.8 in.; C.T., 9.8 in.

Armament: 2-9.4 in. (40 cal.) in turrets f. and a.; 12-5.5 in. (40 cal.), eight in casemates, four in shields; 12-3 pr.; 6 M. Torpedo tubes, 4-18 in.; two submerged, two above water, all on broadside.

Compt. 520.



**JURIEN DE LA GRAVIÈRE** . . Lorient, 26.7.99. Laid down, 15.11.97

Length, p.p. 439.7 ft.; w.l. 450 ft. Beam, 49.2 ft. Draught (mean), 22.8 ft. Disp., 5600 tons.

I.H.P. 16,770=23 kts. Coal cap., 590/886 tons. Oil, tons.

Engines: 3 sets 3 expans. Boilers, Du Temple-Guyot.

Armour: Deck, 2.6 in.; engine coamings, 4.3 in.; casemates, 1.8 in.; C.T., 6.3 in.

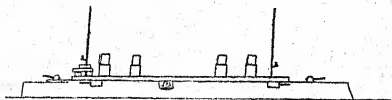
Armament: 8-6.4 in. (45 cal.), two in shields, six in casemates; 10-3 pr.; 6-1 pr. Torpedo tubes, 2-18 in. above water, broadside.

Compt. 510.

(Cannot steam at all fast now.)

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



**I**  
**GUICHEN** . . . . . St. Nazaire, 15.5.98. Laid down, 1895

Length, p.p. 436.3 ft. Beam, 54.8 ft. Draught (mean), 24.6 ft.

Disp., 8150 tons.

I.H.P. 23,670=23 kts. Coal cap., 1437/1968 tons. Also oil.

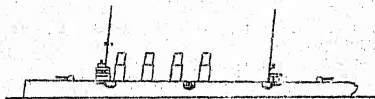
Engines: 3 sets 3 expans. Boilers, Lagrafel d'Allest.

Trials: I.H.P. 25,106=23.5 kts.

Armour: Deck, 2.6 in.; engine coamings, 4.3 in.; casemates, 1.8 in.; C.T., 6.3 in.

Armament: 2-6.4 in. (45 cal.) in shields f. and a.; 6-5.5 in. (45 cal.), four in casemates, two in shields; 12-3 pr.; 5-1 pr.

Compt. 610.



**I**  
**CHÂTEAURENAULT** . . . . . La Seyne, 12.5.98. Laid down, 21.5.96

Length, p.p. 442.9 ft.; o.a. 457.5 ft. Beam, 55.7 ft. Draught (mean), 22.5 ft.; (max.), 24.3 ft. Disp., 7898 tons.

I.H.P. 22,685=23 kts. Coal cap., 1378/2067 tons. Also oil.

Engines: 3 sets 3 expans. Boilers, Normand-Sigaudy.

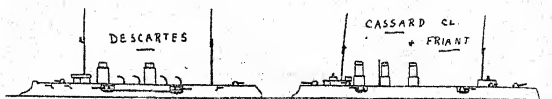
Trials: I.H.P. 23,968=24.2 kts.

Armour: Deck, 2.4 in.; engine coamings, 3.9 in.; casemates, 2.4 in.; C.T., 6.3 in.

Armament: 2-6.4 in. (45 cal.) in shields f. and a.; 6-5.5 in. (45 cal.), four in casemates, two in shields; 10-3 pr.; 5-1 pr.

Compt. 600.

(Fitted as a Mine-layer.)



I  
**DESCARTES** . . . . . St. Nazaire, 9.94. Laid down, 1.98

Length, p.p. 316 ft. ; o.a. 324.8 ft. Beam, 42.6 ft. Draught (mean), 21.3 ft. Disp., 3956 tons.

I.H.P. 8385=20 kts. Coal cap., 541/733 tons.

Engines: 2 sets 3 expans. Boilers, Belleville.

Armour: Deck, 2 in. to 8 in.

Armament: 4-6.4 in. (45 cal.) in shields in sponsons; 10-8.9 in.; 10-3 pr. Torpedo tubes, 2-18 in. above water, broadside.

Compt. 378.

I  
**CASSARD** . . . . . Cherbourg, 27.5.96. Laid down, 22.10.93  
**DU CHAYLA** . . . . . " 10.11.95. " 13.3.98

Length, p.p. 325.5 ft. Beam, 44.9 ft. Draught (mean), 21 ft. Disp., 3947 tons.

I.H.P. 9370=19.5 kts. Coal cap., 614 tons.

Engines: 2 sets 3 expans. *Cassard* by Indret; *Du Chayla* by La Seyne. Boilers, Lagrafel d'Allest.

Armour: Deck, 3.2 in. to 1.2 in.

Armament: 6-6.4 in. (45 cal.) in shields f. and a. and in four sponsons; 4-3.9 in.; 10-3 pr.; 4-1 pr. or M. Torpedo tubes, 2 above water, broadside.

Compt. 370.

(*Cassard* fitted as Mine-layer.)

I  
**FRIANT** . . . . . Brest, 17.4.93. Laid down, 12.91

Length, p.p. 308.5 ft. Beam, 43.3 ft. Draught (mean), 21 ft. Disp., 3740 tons.

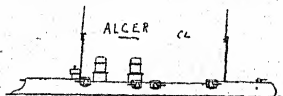
Boilers, Niclausse. Coal cap., 578 tons.

Otherwise same as *Cassard* class, but has 8-3 pr. and 11-1 pr.

Compt. 358.

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**I ALGER** . . . . . Cherbourg, 23.11.89. Laid down, 1887

**ISLY** . . . . . Brest, 23.6.91 " 3.87

Length, p.p. 346 ft. Beam, 43.6 ft. Draught (mean), 20 ft.  
Disp., 4300 tons.

I.H.P. 7890=19 kts. Coal cap., 394/866 tons.

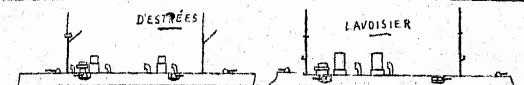
Engines: 2 sets 3 expans. Boilers, *Alger*, Belleville; *Isly*, Niclausse.

Armour: Deck, 3.5 in. to 2 in.

Armament: 4-6.4 in. in sponsons; 6-5.5 in. f. and a. and in four sponsons amidships; 2-9 pr.; 10-3 pr. (*Isly*, 12).

Torpedo tubes, 4 above water, broadside.

Compt. 370.



**J D'ESTRÉES** . . . Rochefort, 27.10.97. Laid down, 3.3.97. Sheathed

Length, p.p. 312 ft. Beam, 39.3 ft. Draught (max.), 17.8 ft.  
Disp., 2421 tons.

I.H.P. 8445=21 kts. Coal cap., 340/472 tons.

Engines: 2 sets 3 expans. by Creusot. Boilers, Lagrafel d'Allest.

Armour: Deck, 1.6 in. to .8 in.

Armament: 2-5.5 in. (45 cal.) in shields f. and a.; 4-3.9 in. (45 cal.) in sponsons; 8-3 pr.; 2 M. Torpedo tubes, 2 above water, broadside.

Compt. 234.

**J LAVOISIER** . . . Rochefort, 17.4.97. Laid down, 1893

Length, p.p. 328 ft. Beam, 36.1 ft. Draught (max.), 17.8 ft.  
Disp., 2303 tons.

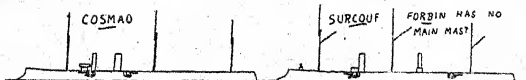
I.H.P. 6905=20 kts. (21.5 on trial). Coal cap., 226/344 tons.

Engines: 2 sets 3 expans. Boilers, Belleville.

Armour: Deck, 1.6 in.; C.T., 3.9 in.

Armament: 4-5.5 in. (45 cal.) in sponsons; 2-3.9 in. (45 cal.); 10-3 pr.; 2-1 pr.; 4 M. Torpedo tubes, 2 above water, broadside. Compt. 248.





<b>J COSMAO</b>	. . . . . Bordeaux, 8.89.	Laid down, 1887
<b>FORBIN</b>	. . . . . Rochefort, 14.1.88.	" 3.87
<b>SURCOUF</b>	. . . . . Cherbourg, 10.89	" 3.87

Length, p.p. 311.5 ft. Beam, 29.5 ft. Draught (max.), 17 ft.  
Disp., 1950 tons.

I.H.P. 5920=20 kts. Coal cap., 197/325 tons.

Armour: Deck, 1.6 in.; belt, amidships, 1.4 in.

Armament: 4-5.5 in. (45 cal.) in sponsons: 9-3 pr.; 4 M.

Torpedo tubes, 5-14 in. above water.

Compt. 200.

(Fitted as Mine-layers.)



#### TORPEDO GUNBOATS.

<b>L DUNOIS</b>	. . . . . Cherbourg, 6.10.97.	Laid down, 15.9.96
<b>LA HIRE</b>	. . . . . " 3.11.98.	" 1.96

Length, p.p. 256 ft. Beam, 27.9 ft. Draught (max.), 12.8 ft.  
Disp., 890 tons.

I.H.P. 6300=23 kts. (never reached). Coal cap., 135 tons.

Engines: 2 sets 3 expans. Boilers, Normand-Sigaudy.

Armament: 6-9 pr.; 6-3 pr. Torpedo tubes removed.

Compt. 128.

<b>L CASSABIANCA</b>	. . . . . Bordeaux, 21.9.95.	Laid down, 1893
<b>CASSINI</b>	. . . . . Havre, 5.6.94.	" 1891

Length, p.p. 262.4 ft. Beam, 26.9 ft. Draught (max.), 11.5 ft.  
Disp., 945 tons.

I.H.P. 5130=21.5 kts. Coal cap., 115 tons.

Engines: 2 sets 3 expans. Boilers, Lagrafel d'Allest.

Armour: Deck, amidships, .7 in.; belt, amidships, 1 in.

Armament: 1-3.9 in.; 3-9 pr.; 5-3 pr.; 4 M. Torpedo tubes removed.

Compt. 128.

(Fitted as Mine-layers.)

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim

## DESTROYERS. (See also p. 6.)

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Engines.	Bollers.	Armament.	Coal or Oil.	Compt.
<b>M</b>			ft.	ft.	ft.	tons.		kts.				tons.	
Ens. Gabolde .	hdg.	N	271	27	..	832	17,785	31	P	N		..	..
Ensigne Roux .	hdg.	R											
Méc. Fr. Lestin .	hdg.	R	265.7	25.7	9.8	837	..	..		D		160	81
Com. Lucas .	'12	T							L	N	3-18 in. tubes.	140	81
Magon .	'13	T	257.5	25.7	9.8	791	15,535	30	L	N		140	81
Mangini .	'13	T							L	N		140	81
Protet .	'13	R							L	N		140	81
Renaudin .	'13	T	256	25.9	9.8	735	14,300	30	L	N		140	81
Bisson .	'11	T							L	N		140	81
Dehorter .	'11	S	256	25.9	9.8	750	13,810	31	L	N		140	81
Cap. Mehl .	'11	S							L	N		140	81
Com. Riviere .	'11	S	254.3	25.6	9.8	754	14,300	32.2	L	N		140	81
Com. Eory .	'11	S	252.5	25.9	9.8	746	14,300	31	L	N		140	81
Francis Garnier .	'11	M	246	25.6	10.8	732	13,510	31	P	H		140	81
Cimetierre .	'10	G	256	25.9	9.5	720	13,315	32.7	P	H	2-23.9 in.; 4-9 pr.; 3-18 in. tubes.	118	81
Faulx .	'11	N	246	24.9	9.5	734	12,330	31	R	D		118	81
Fouche .	'10	N	246	24.9	9.5	734	12,330	33.8	R	D		118	81
Boutefeu .	'11	E	252.6	24.9	9.5	765	13,810	31	Z	D		118	81
Casque .	'10	F	252.6	24.9	9.8	732	14,205	34.0	P	P		118	81
Bouclier .	'11	H	233	24.9	9.8	602	12,825	35.3	P	N		118	81
<b>N</b>													
Ens. Henry .	'11	R	214.5	21.5	9.8	443	8,485	28.5	M	D	5-9 pr.; 3-18 in. tubes.	85	62
Asp. Herbert .	'11	R							M	D		85	62
Janissaire .	'10	S	213.2	21.3	9.8	449	7,550	28.5	P	W		50	62
Cavallier .	'10	N	210	21.6	9.8	455	8,485	31	P	N		65	62
Fantassin .	'09	N	213.2	21.6	9.8	446	8,485	30.4	P	N		65	62
Chasseur .	'09	N	210	21.6	9.8	441	8,485	30.4	P	N		80	62
Mameluk .	'09	L	216.5	21.4	9.8	495	7,645	29.7	T	N		37	62
Lansquenet .	'09	B	210	21.6	9.8	417	7,400	28	T	N		35	62
Voltigeur .	'08	N	216.5	22.3	9.8	437	8,395	31.6	M	N		45	62
Tirailleur .	'08	G	206.7	21.6	9.5	420	7,655	28	M	N		45	62
Spahi .	'08	H	213.2	21.6	9.8	421	8,090	28.7	M	N	5-9 pr.; 3-18 in. tubes.	38	62
Carabinier .	'08		210	21	9.2	400	7,400	28	T	D		30	62
Hussard .	'08	L	216.5	21.6	9.8	492	7,645	29	T	D		27	62

## Destroyers—continued.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	L.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
N			ft.	ft.	ft.	tns.		kts.			tns.	
Poignard . . . . .	'09	R						28	D			
Glaive . . . . .	'08	R						28	D			
Trident . . . . .	'08	R						30	D			
Fleuret . . . . .	'07	R						23	D			
Coutelas . . . . .	'07	R						28	N			
Carquois . . . . .	'06	R						30	D			
Pierrier . . . . .	'06	R						30	D			
Stylet . . . . .	'05	R						30	D			
Tromblon . . . . .	'05	R						30	D			
Mortier . . . . .	'05	R						30	D			
Obusier . . . . .	'05	R						28.3	D			
Claymore . . . . .	'05	H	190.3	20.3	9.8	330	6710	20.4	N			
Branlebas . . . . .	'07	H						29.3	N			
Fanfare . . . . .	'07	H						28.9	N			
Cognée . . . . .	'07	T						28	N			
Hache . . . . .	'08	T						28	N			
Massue . . . . .	'08	T						28	N			
Sabretache . . . . .	'08	N						29.6	N			
Oriflamme . . . . .	'08	N						29.5	N			
Etendard . . . . .	'08	B						28	N			
Fanion . . . . .	'08	B						28	N			
Sape . . . . .	'07	S						29.8	D			
Gabion . . . . .	'07	S						29.7	D			

1-9 pr.; 6-3 pr.; 2-18 tubes.

## NOTES TO DESTROYERS.

Builders: T=Toulon D.Y.; C=Schneider, Le Creusot; R=Rochefort D.Y.; S=St. Nazaire; B=Dyle & Bacalan, Bordeaux; H=Normand, Havre; G=Chantiers de la Gironde, Bordeaux; N=De la Brosse and Fouché, Nantes; L=Chantiers de la Loire, Nantes; V and F=Forges et Chantiers de la Méditerranée at Gravelle and at Havre respectively; X=Rouen.

Engines: Z=Zoelly turbines; P=Parsons turbines; B=Bréguet turbines; R=Rateau turbines; T=Reciprocating engines; M=Combined turbine and reciprocating. All boats of less than 400 tons have reciprocating engines.

Boilers: D=Du Temple-Guyot; N=Normand; W=White-Forster. Trial speeds are given when known, otherwise designed speeds. Designed L.H.P. is given.

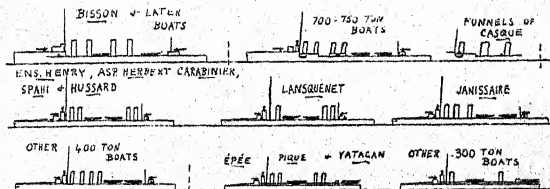
*Branlebas* and *Fanfare* have 8 in. armour amidships. *Stylet*, *Trident*, *Fleuret*, *Hache*, *Massue*, and *Fanfare* are fitted as mine-layers.

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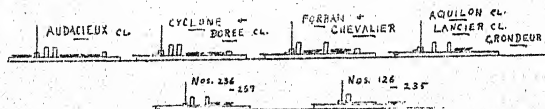
## Destroyers—continued.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
N			ft.	ft.	ft.	tns.		kts.			tns.	
Arc	'04	C	183.7	20.6	9.5	298	6215	28.3	D	1-9 pr.; 6-8 pr.; 2 15 in. torpedo tubes.	38	62
Mouqueton	'04	C						28.3	D			
Pistolet	'03	N						28.0	D			
Bellier	'02	N						29.0	D			
Catapulte	'03	F						28.9	N			
Bombarde	'03	F						30.5	N			
Javeline	'02	N						29.3	N			
Francisque	'03	R						30	N			
Sabre	'03	R						28.7	N			
Harpon	'02	H						30.7	N			
Fronde	'02	H	183.7	20.6	9.5	298	5620	30.7	N	1-9 pr.; 6-8 pr.; 2 15 in. torpedo tubes.	38	62
Darde	'03	X						29.4	D			
Baliste	'03	X						29.4	D			
Sarbacane	'03	R						29.3	N			
Carabine	'02	R						29.9	N			
Arquebuse	'03	H						30.7	N			
Arbalete	'03	H						31.3	N			
Sagale	'03	H						30.1	N			
Epieu	'03	H						31.2	N			
Tertuisane	'00	R						27	D			
Escopette	'00	R	187	20.6	9.5	307	5620	26	D	1-9 pr.; 6-8 pr.; 2 15 in. torpedo tubes.	33	62
Flamberge	'01	IL						26.7	D			
Rapiere	'01	R						26.1	D			
Pique	'00	V						26	N			
Epee	'00	V						25.1	N			
Yatagan	'00	B						27.1	N			
Durandal	'99	H						27.4	N			
Hallebarde	'98	H						27.2	N			
Fauconneau	'00	H	180.4	20.6	9.8	303	4945	27.1	N		36	63



## SEA-GOING TORPEDO BOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
			ft.	ft.	ft.	tns.		kts.			tns.	
Mistral . . . . .	'01	H	147.5	16.1	8.5	182	4145	28.1	N	2-3 pr., except <i>Chevalier</i> , which has 2-1 pr.; 3 tubes in first six, 2 in others.	25	32
Typhon . . . . .	'01	V						28.2	N			
Simoun . . . . .	'00	V						27.7	N			
Sirocco . . . . .	'00	H						28.3	N			
Trombe . . . . .	'00	N	147.5	15.7	8.2	160	4340	26.6	N		18	30
Audacieux . . . . .	'00	N						26	D			
Bourasque . . . . .	'01	H						31.4	N			
Rafale . . . . .	'01	H						31.5	N			
Borée . . . . .	'01	B	147.5	15.1	8.2	150	4190	29.5	N		18	30
Tramontane . . . . .	'01	B						29.6	N			
Cyclone . . . . .	'98	H						30.4	N			
Forban . . . . .	'95	H						32.5	N			
Aquilon . . . . .	'95	H	137.8	14.4	7.9	128	1975	31.2	N		17	28
Flibustier . . . . .	'94	H						26.2	N			
Averne . . . . .	'93	H						25	N			
Chevalier . . . . .	'93	H						27.2	N			
Lancier . . . . .	'93	H	137.8	14.7	7.5	127	1725	25	D	2-3 pr., except <i>Chevalier</i> , which has 2-1 pr.; 3 tubes in first six, 2 in others.	15	28
Dragon . . . . .	'92	H						25.2	D			
Grenadier . . . . .	'92	H						25.7	D			
Grondeur . . . . .	'92	V						24	T			
Tourbillon . . . . .	'92	B	144.3	14.7	8.2	128	1085	20.5	T		20	28
Kabyle . . . . .	'92	M	144.3	14.7	8.2	126	1085	21	T		14	26
Orage . . . . .	'91	M	144.3	14.7	8.2	126	1085	21.5	T		17	28



NOTES.—Builders: H=Normand, Havre; V=Forges et Chantiers, Gravelle; N=Nantes; B=Bordeaux; M=La Seyne. Boilers: N=Normand; D=Du Temple-Guyot; T=Thornycroft.

*Kabyle* and *Orage* are attached to Stokers' Training Ship; *Grondeur* and *Grenadier* to Navigation School. *Mistral* class have 8 in. armour amidships.

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## TORPEDO BOATS—I. CLASS.

Nos. P	Built.	Launched.	Length. ft. in.	Beam. ft. in.	Max. Dr. ft. in.	Disp. tons.	I.H.P.	Speed. kts.
2. (126, 129)	Havre	'88-'90	118 0	13 3	8 8	78	1000	21
5. (146, 147, 149, 153, 154)	Havre	'91-'93	118 0	13 3	8 8	79	1300	23.9- 24.6
1. (156)	Bordeaux	'93	118 0	13 3	8 8	79	1300	21
2. (158, 159)	Caill	'93	118 0	13 3	8 8	79	1300	21
2. (161, 162) <sup>1</sup>	St. Nazaire	'92	118 0	13 3	8 8	79	1300	21
1. (167)	Le Creusot	'92	118 0	13 3	8 8	79	1300	21
2. (170, 171)	Havre	'93	118 0	13 3	8 8	79	1300	24
2. (175, 176)	Le Creusot	'93-'94	118 0	13 3	8 8	79	1390	21
3. (183-185)	Havre	'94	118 0	13 3	8 8	80	1300	24
2. (188, 191)	Havre	'94	118 0	13 3	8 8	80	1350	24
2. (195, 197)	Caill	'94	121 4	13 5	8 5	80	1350	24
1. (200)	Havre	'95	121 4	13 5	8 5	80	1350	24
1. (202)	Havre	'97	121 4	13 5	8 5	80	1500	24
3. (206, 210, 211)	Bordeaux	'97-'98	121 4	13 5	8 5	85	1500	24
3. (212-214)	Havre	'98	121 4	13 5	8 5	88	1800	26.8
5. (216-220)	Le Creusot	'98	121 4	13 5	8 5	88	1500	24
1. (222)	St. Nazaire	'98	123 0	13 3	8 5	86	1500	24
1. (224)	Cherbourg	'03	118 0	13 3	8 8	86	1500	24
2. (225, 226)	Toulon	'98-'02	118 0	13 3	8 8	86	1500	24
3. (227-229)	Havre	'99	121 4	13 9	8 8	90	1500	24
3. (230-232)	Bordeaux	'99	121 4	13 5	8 5	85	1500	24
2. (233, 235)	Le Creusot	'99	121 4	13 5	8 6	87	1500	24
3. (236-238)	Havre	'98-'99	121 4	13 3	8 8	84	1500	25
3. (239-241)	Bordeaux	'99	121 4	13 3	8 8	84	1500	25
1. (242)	Saigon	'01	121 4	13 9	8 8	87-90	1500	24.3
1. (243) <sup>2</sup>	La Seyne	'04	121 4	13 9	8 8	87-90	1500	24.3
1. (244)	Saigon	'01	121 4	13 9	8 8	87-90	1500	24.3
5. (245-249)	Le Creusot	'00-'02	121 4	13 9	8 8	87-90	1500	24.4
2. (251, 252)	St. Nazaire	'00	121 4	13 9	8 8	87-90	1500	24.4

<sup>1</sup> Nos. 120-200 have one boiler, with the exception of Nos. 161, 162, which have two. No. 202 and all subsequent boats have two.

<sup>2</sup> Rateau steam turbines, 3 shafts and 6 propellers.

<sup>3</sup> Most of these boats have trial speeds of over 25 kts.

<sup>4</sup> These and subsequent boats have a coal cap. of 11.2 tons and a radius of 1800 miles at 10 kts., and 200 miles at full speed.

Torpedo Boats—I. Class—*continued.*

Nos. P	Built.	Launched.	Length.	Beam.	Max. Dr.	Disp.	I.H.P.	Speed.
			ft. in.	ft. in.	ft. in.	tons.		kts.
3. (253-255)	Havre F.& C.	'01	121 4	13 3	9 0	91	1500	24 <sup>2</sup>
2. (256, 257)	Nantes	'02	121 4	13 3	9 0	91	1500	24 <sup>1</sup>
4. (258-261)	Bordeaux	'01	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
1. (262)	Le Creusot	'01	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
2. (264, 265)	Dyle and Bacalan	'01-'02	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
3. (266-268)	Nantes	'03	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
2. (269, 270)	HavreNorm.	'02	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
2. (271, 272)	"	'04	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
2. (273, 274)	Dyle and Bacalan	'04	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
2. (275, 276)	Ch. de la Gironde	'02-'03	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
1. (277)	Saigon	'04	121 4	13 9	8 8	87-90	1500	24 <sup>1</sup>
15. (278-292)	French yds.	'03-'04	121 4	13 9	8 8	87-90	1900	26
2. (295, 296) <sup>2</sup>	HavreNorm.	'05	122 4	14 0	8 10	97	2000	26
3. (297-299)	Ch. de la Gironde	'05	122 4	14 0	8 10	97	2000	26
3. (300-302)	Dyle and Bacalan	'05	122 4	14 0	8 10	97	2000	26
3. (303-305)	Ch. de la Loire	'05	122 4	14 0	8 10	97	2000	26
3. (306-308)	Graville	'05	122 4	14 0	8 10	97	2000	26
3. (309-311) <sup>3</sup>	Toulon	'05	122 4	14 0	8 10	97	2000	26
2. (312-314)	Rouen	'05	122 4	14 0	8 10	97	2000	26
3. (315-317)	Dubigeon	'05	122 4	14 0	8 10	97	2000	26
4. (318-321)	HavreNorm.	'06	122 4	14 0	8 10	97	2000	26
3. (322-324)	Dubigeon	'06	122 4	14 0	8 10	97	2000	26
7. (325-331)	Ch. de la Gironde	'06-'07	122 4	14 0	8 10	97	2000	26
6. (332-337)	Dyle and Bacalan	'06	122 4	14 0	8 10	97	2000	26
2. (339-340)	Nantes	'06	122 4	14 0	8 10	97	2000	26
6. (341-346)	Graville	'06	122 4	14 0	8 10	97	2000	26
5. (348-352)	Ch. de la Loire	'06	122 4	14 0	8 10	97	2000	26
6. (353-358)	Creusot	'06	122 4	14 0	8 10	97	2000	26

NOTE.—Nos. 280, 286 have done 27 kts.; No. 290, 27·4 kts.; No. 295, 26·2 kts.; No. 319, 26·5 kts.; No. 324, 27·6 kts.

<sup>1</sup> Most of these boats have trial speeds of over 25 kts.

<sup>2</sup> These and subsequent boats have a coal cap. of 11·2 tons and a radius of 1800 miles at 10 kts., and 200 miles at full speed.

<sup>3</sup> These and subsequent boats have one single and one double 17-in. torpedo tube.

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## Torpedo Boats—I. Class—continued.

Number or Name. P	Built.	Launched.	Length.	Beam.	Max. Dr.	Disp.	I.H.P.	Speed.
			ft. in.	ft. in.	ft. in.	tons.		kts.
9. (359-367) <sup>1</sup>	St. Nazaire	'06	122 4	14 0	8 10	97	2000	26
2. (368-369)	Toulon	'08	..	..	..	..	2000	26
1. S 11	Saigon	'06	..	..	..	86	1500	24

All the above are steel single-screw boats; can carry from 10 to 14 tons of coal. Armament is, for the most part, 2-1 pr. Q., with 2 torpedo tubes, one on turntable at stern and one fixed in bow (but the 122-ft. boats have 3 tubes), and the complement is 22. Boilers: Oriolle in older boats; Normand or Guyot-du Temple in the newer.

## II. Class:—

5. (79, 82, 86, 103, 107)	Cail, Havre, La Seyne, etc.	'85-'92	114 8	10 7	6 0	56	525	20
9. (113-114, 118- 123, 125)		'85-'90	114 8	10 7	6 0	56	525	20
2. (136, 141)		'89-'91	111 6	11 5	6 0	53	700	21
1. (150)		'90	114 8	10 7	7 0	54	520	20
4. (Q1-Q4)	Graville	'03-'04	..	..	..	54	700	20-5
1. Libellule <sup>2</sup>		'05	119 5	10 10	6 2	40	900	25

All the above are built of steel and have single screws. The coal capacity is 10 tons. The armament is 2-1 pr. Q., with 2 torpedo tubes. Compt. 16.

## Q

## III. Class:—

5. (22, 24, 33, 39, 41)	'77-'82	86-91	10 3- 10 9	5- 6 2	27-33	200- 450	16-19
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All the above are of steel with single screws; can carry 10 tons of coal. Some have 2 torpedo tubes, and some are fitted for spar torpedoes.

## VELETTE BOATS.

## Q

30	Chiswick	'86	67	8 6	3 6	16	..	18
57	Chiswick	'79	59	7 6	3 6	12	50	16
58	Chiswick	'81	63	7 6	3 6	11	50	17
A, B	Le Creusot	'94	62	8 9	4 10	15	210	16-5
D, E, F	Le Creusot	'96-'98	62	9 2	4 10	14	210	18
G, H, I	Le Creusot	'98-'99				8	170	16-3
B 51 <sup>3</sup>	Rouen	'07	52½	8 9	3 0	4	170	16-3

(Each of the above has 1 torpedo tube.)

<sup>1</sup> No. 360 has done 27-6 kts.

<sup>2</sup> The *Libellule* is an experimental boat, fitted with turbine engines. She carries 1 torpedo tube.

<sup>3</sup> B 51 is driven by a Cazes petroleum motor.



## SUBMARINES.

S	Name.	Date.	Builder.	Length. ft.	Beam. ft.	Disp. above and below. tons	I.H.P. above and below.	Speed above and below. kts.	Tubes.	Compt.
	Regnault . . . . .	bdg.	T	246	21	820/1053	4950/1640	19/11	8	50
	Lagrange . . . . .	"	R							
	Laplace . . . . .	"	C							
	Joessel . . . . .	"	C							
	Fulton . . . . .	"	T							
	Sané . . . . .	"	T							
	Dupuy de Lôme . . . . .	"	T							
	Arethuse . . . . .	"	C							
	Diane . . . . .	"	C							
	Gorgone . . . . .	"	R							
	Hermione . . . . .	"	R	177	16.7	404/542	1230/	15/9	8	27
	Bellone . . . . .	"	C							
	Andromaque . . . . .	"	C							
	Ariadne . . . . .	"	T							
	Amaranthe . . . . .	"	T							
	Atalante . . . . .	"	T							
	Daphné . . . . .	"	R							
	Astree . . . . .	"	R							
	Amphitrité . . . . .	"	R							
	Clorinde . . . . .	'13	R							
	Cornélie . . . . .	'13	R	167.3	16.3	302/	690/434	12.5/3	6	2
	Montgolfier . . . . .	'12	R							
	Newton . . . . .	'12	R							
	Faraday . . . . .	'11	R							
	Volta . . . . .	'11	R							
	Le Verrier . . . . .	'12	T							
	Arago . . . . .	'12	T							
	Coulomb . . . . .	'12	T							
	Joule . . . . .	'11	T							
	Bernouilli . . . . .	'11	T							
	Foucault . . . . .	'12	C	167.3	16.3	302/	690/434	12.5/3	6	2
	Euler . . . . .	'12	C							
	Franklin . . . . .	'11	C							
	Nivose . . . . .	'12	C							
	Frimaire . . . . .	'11	C							
	Brumaire . . . . .	'11	C							
	Fructidor . . . . .	'09	C							
	Thermidor . . . . .	'09	C							
	Messidor . . . . .	'08	C							
	Prairial . . . . .	'08	C							
	Floréal . . . . .	'08	C	167.3	16.3	302/	690/434	12.5/3	6	2
	Germinal . . . . .	'07	C							
	Ventôse . . . . .	'07	C							
	Pluviôse . . . . .	'07	T							
	Gay Lussac . . . . .	'10	T							
	Ampère . . . . .	'10	T							
	Monge . . . . .	'09	R							
	Giffard . . . . .	'10	R							
	Cugnot . . . . .	'09	R							
	Watt . . . . .	'09	R							
	Berthelot . . . . .	'09	R	167.3	16.3	302/	690/434	12.5/3	6	2
	Fresnel . . . . .	'09	R							
	Papin . . . . .	'09	R							

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## Submarines—continued.

Names.	Date.	Builder.	Length.	Beam.	Disp. above and below.	L.H.P. above and below.	Speed above and below.	Tubes.	Compt.
<b>8</b>			ft.	ft.	tons.		kts.		
Néréide . . . . .	'13	C	242.7	10.7	772/955	4735/	20/10	8	40
Gustave Zédé . . . . .	'13	C				1675/	15/10	6	25
Archimède . . . . .	'09	C	198.7	18.5	568/797	1675/	15/10	6	28
Mariotte . . . . .	'11	C	215.7	14.2	522/615	1420/	15/10	6	25
Amiral Bourgois . . . . .	'12	R	181	26.3	546/723	1540/	15/10	6	20
Charles Brun . . . . .	'10	T	144.3	13.1	340/443	1280/	14.5/10	6	22
Circe . . . . .	'07	T	151.5	16	345/490	436/	11.7/8	6	22
Calypso . . . . .	'08	T	154.5	16	345/490	436/	11.7/8	6	20
Aligrette . . . . .	'04	T	117.6	12.7	170/266	197/138	11/8	4	20
Cicogne . . . . .	'04	T	117.6	12.7	170/266	197/138	11/8	4	20
Sirène . . . . .	'01	C							
Triton . . . . .	'01	C							13
Silure . . . . .	'01	C	111.5	12.3	104/197	212/	12/8	4	
Espadon . . . . .	'01	C							
Topaze . . . . .	'08	T					12/8	6	21
Turquoise . . . . .	'08	T					12/8	6	21
Rubis . . . . .	'07	C	154.2	12.7	386/	592/	12.7/8	6	21
Opale . . . . .	'06	C					11.2/3	6	21
Émeraude . . . . .	'06	C					12/8	6	21
Follet . . . . .	'01	R	135.6	9.5	197/	276/	9/5	4	16

NOTES.—*Dupuy de Lôme* class, *Montpolsier* to *Brumaire*, *Néréide*, *Gustave Zédé*, *Archimède*, and *Charles Brun* have steam engines for surface use; *Cornélie* class and *Mariotte* have Diesel engines; others have petrol. Boats down to *Espadon* are known as "submersibles"; the rest are "submarines." *Follet* was formerly called *Farfadet*; she was lost with all hands in 1905, but afterwards salvaged. Many of these boats had originally a bow-tube in addition to their external launching gear. Builders: C=Cherbourg; R=Rochefort; T=Toulon.

NOTES TO SUBMARINES on p. 96.—*Argonaute* is a "submersible" designed by Bertin; she was formerly known as "Ω." She has benzine engines for surface use. The rest are "submarines" designed by Romazotti. *Dauphin* was formerly known as "X." She has petrol engines for surface use. The others have electric motors only (some are said to have a benzine motor for surface use). They are intended simply for harbour defence.

## Submarines—continued.

Name.	Date.	Builder.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Tubes.	Compt.
<b>S</b>									
Argonaute. . . . .	'05	T	ft. 160.4	ft. 13.7	tons 296/394	326/	kts. 11/	4	15
Dauphin . . . . .	'04	C	122.6	10.2	168/	217/	10.5/	4	..
Truite . . . . .	'05	T							
Alose . . . . .	'04	T							
Anguille . . . . .	'04	T							
Grondin . . . . .	'04	T							
Dorado . . . . .	'03	T							
Souffleur . . . . .	'03	T							
Thon . . . . .	'03	T							
Bonite . . . . .	'03	T							
Oursin. . . . .	'04	R	76	7.4	67/	60/	8/6	2	12
Méduse . . . . .	'04	R							
Otarie . . . . .	'03	R							
Phoque . . . . .	'03	R							
Castor. . . . .	'03	R							
Loutre . . . . .	'03	R							
Ludion . . . . .	'02	C							
Lynx . . . . .	'03	C							
Naiade . . . . .	'04	C							
Protée . . . . .	'03	C							
Français . . . . .	'01	C	118	9	144/	355/	10/8	4	13
Algerien . . . . .	'01	C	118	9	144/	355/	10/8	4	13

## SUBMARINE SALVAGE SHIPS.

W 1 ship . . . . . St. Nazaire, 22.9.11

Length, 324.8 ft. Beam, 77.5 ft. Disp. (normal), 2392 tons.

Can lift 1000 tons. Draught with 1000 tons load, 11 ft.

W VULCAIN . . . . . 1909

Disp. (normal), 325 tons

Speed: 12 kts.

— Shri KVSS Prasad Rao

— H.E. Mr Tariq Ahmed Karim

**TORPEDO DEPÔT SHIP.**

**W FOUORE** . . . Bordeaux, 20.10.95. Laid down, 1892  
 L., p.p. 370.6 ft.; o.a. 380.5 ft. B., 52.5 ft. D. (max.), 23.5 ft.  
 Disp., 5990 tons.  
 I.H.P. 11,245=19 kts. (19.5 on trial). Coal cap., 832 tons.  
 Engines: 2 sets 3 expans. Boilers, Lagrafel d'Allest.  
 Armour: Deck, 3.5 in. to 1.8 in.; engine coamings, 3.9 in.;  
 casemates, 3.9 in.; C.T., 4.7 in.  
 Armament: 8-8.9 in., two in shields f. and a., six in casemates;  
 4-9 pr.; 2-3 pr. Torpedo tubes, 5.  
 Compt. 410.

(Carried originally 6 torpedo vedette boats and 2 launches.  
 Now used as workshop and mine transport. Fitted as a floating  
 base for aeroplanes.)

**SUBMARINE DEPÔT SHIP.**

**W LANCE** . . . . . 1886 (*ex* Torpedo Gunboat)  
 L., 194 ft. B., 19.7 ft. D. (max.), 10.5 ft. Disp., 405 tons.  
 I.H.P. 1775=18 kts. Coal cap., 70 tons. Boilers, Normand.  
 Armament: 4-3 pr.; 4-1 pr. Torpedo tubes, 2-14 in. above  
 water.  
 Compt. 63.

**SPECIAL MINE-LAYERS.**

**W PLUTON** . . . . . Havre, 1911. Laid down, 1910  
**CERBÈRE** . . . . . „ 1912. „ 1911  
 L., 193.6 ft. B., 26.5 ft. D. (mean), 10.3 ft. Disp. 553 tons.  
 I.H.P. 5920=20 kts.

**MINE-SWEEPERS.**

Alcyon, Brestois, Damier, Echiquier, Griffon, Iroise, Lorientais,  
 Orient. Trawlers bought, 1910-13.  
 Charrue, Herse, Pioche, Rateau, 1914

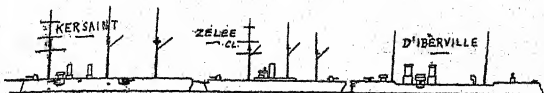
## SUBVENTIONED MERCHANT STEAMERS, AVAILABLE AS ARMED CRUISERS.

Steamers.	Launched.	Length between perps.	Beam.	Mean Draught.	Tons Gross.	Speed.
<b>T</b>						
<i>Compagnie Générale Transatlantique:—</i>						
		ft.	ft.	ft.		kts.
Charles Roux . . .	'08	377	45	26	4,104	20
Chicago . . .	'07	509	57	..	10,471	16
La Bretagne . . .	'86	495.4	51.8	25	6,756	17.5
La Champagne . . .	'85	493.4	51.8	25	6,724	17.5
La Gascogne . . .	'86	495.4	52.2	25	7,090	17.5
La France . . .	'11	715	75.4	..	22,700	24
La Lorraine . . .	'99	563.1	60	25	11,146	22
La Navarre . . .	'92	471	50.5	25	6,343	17
La Normandie . . .	'82	459.3	49.2	25	6,029	16.5
La Provence . . .	'05	602.3	65	25	14,744	22.6
La Savoie . . .	'00	563.1	60	25	11,168	21
La Touraine . . .	'90	520.2	56	..	8,429	19.5
Ville d'Alger . . .	'90	342.7	36.1	..	2,097	17.5
<i>Messageries Maritimes:—</i>						
Amazon . . .	'96	442.7	50.8	24	6,007	17
Armand Behic . . .	'92	486.6	50.1	24	6,385	17.5
Atlantique . . .	'99	468.9	50.6	24	6,446	16.5
Australien . . .	'89	482.3	49.2	24	6,365	17.5
Chili . . .	'94	462.6	47.6	24	6,090	16.5
Cordillère . . .	'95	462.6	47.6	24	6,007	16.5
Dumbea . . .	'89	463.9	46.4	24	5,685	16.5
Ernest Simons . . .	'93	442.9	47.1	24	5,543	16.5
Magellan . . .	'97	446.2	50.8	24	6,015	17
Néra . . .	'89	452.6	45.9	24	5,538	16.5
Polynésien . . .	'90	482.3	49.2	24	6,363	17.5
Tonkin . . .	'98	446.2	50.9	24	6,092	17
Tourane . . .	'98	446.2	50.9	24	6,054	17
Ville de la Ciotat . . .	'92	485.8	49.9	24	6,378	17.5

The above vessels will be armed with 7-5.5 in. B. and with 1 pr. revolv. cannon. The guns are kept ready at the ports from which the vessels ply.

— Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim



## GUNBOATS.

**R KERSAINT** . . Rochefort, 29.8.97. Sheathed and coppered  
 L., 225.5 ft. B., 35.7 ft. D. (mean), 15.1 ft. Disp., 1223 tons.  
 I.H.P. 2170=15 kts. Coal cap., 197 tons.  
 Engines: 1 set 3 expans. Boilers, Lagrafel d'Allest.  
 Armament: 1—5.5 in.; 5—3.9 in.; 7—1 pr. Compt. 110.

**R ZÉLÉE** . Rochefort, 18.10.99. Sheathed and coppered  
**DECIDÉE** . Lorient, 26.6.99. " " "  
**SURPRISE**. Havre, 24.4.95. " " "

L., 184.7 ft. B., 26.5 ft. D., 12.2 ft. Disp., 636 tons. (*Surprise* has B., 24.2 ft. D., 12.5 ft. Disp., 617 tons.)  
 I.H.P. 890=13 kts. Coal cap., 75 tons.  
 Engines: 1 set horiz. 3 expans. Boilers, Niclausse.  
 Armament: 2—3.9 in.; 4—9 pr.; 4—1 pr. Compt. 100.

**L D'IBERVILLE** . . . . St. Nazaire, 11.9.92  
 L., 262.4 ft. B., 26.9 ft. D. (mean), 11.2 ft. Disp., 952 tons.  
 I.H.P. 4930=21.5 kts. Coal cap., 115/133 tons.  
 Engines: 2 sets 3 expans. Boilers, Lagrafel d'Allest.  
 Armour: Deck amidships, 6 in.  
 Armament: 1—3.9 in.; 3—9 pr.; 4—1 pr. Compt. 124.  
 (Yacht for Governor of Indo-China.)

**X IBIS** . . . . Rochefort, 1883. Iron-built.  
 L., 189.5 ft. B., 20.5 ft. D. (mean), 6.7 ft. Disp., 250 tons.  
 I.H.P. 420=11 kts. Coal cap., 15/50 tons.  
 Armament: 2—9 pr. Compt. 44.  
 (Fishery Protection.)

**X 1 ship** . . . . Rochefort. Building.  
 Disp., 600 tons.  
 Speed, 13 kts.  
 Armament: 1—3 pr.

## RIVER GUNBOATS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.	Coal.	Compt.
V		ft.	ft.	ft.	tons		kts.		tns.	
Balny	bldg. '08	170.6	22	3.2	211	790	14	6-1 pr.	27	45
Doudart de Lagrée	'01	..	..	..	128	275	10	3-1 pr.	..	32
Pei-Ho	'00	145	24	2	123	500	13.4	{ 2-3.5 in.; }	80	30
Argus	'00	145	24	2	123	500	13.2	{ 4-1 pr. }	80	30
Vigilante	'01	..	..	..	165	530	11	6-1 pr.	..	38
Olry. bought	'04	97	..	..	..	60	..	..	..	..
Bangui	'97	..	..	..	..	..	..	..	..	..
Jacques d'Uzès.	'97	..	..	..	..	..	..	..	..	..
Léon Blot	'86	97	36	1.7	118	295	8.8	{ 1-3 pr.; }	20	49
Doucet	'86	97	36	1.7	118	295	8.8	{ 4-1 pr. }	20	49
Rollandes	'84	122.5	24.2	2.4	197	305	9	{ 2-3.5 in.; }	20	50
Jacquin	'93	104	18	2.5	..	..	8.5	{ 4-1 pr. }	..	..
Onyx	'92	100	18	2.5	..	..	10	{ 7-1 pr. }	..	34
Opale	'94	..	..	..	..	..	..	..	..	..
Boëni. bought										
Diamant										
Emeraude										
Étincelle										
Rubis										
Surveillant					17/21	7/10	..	..	..	..
Saphir										
Turquoise										
Mirmidon										
Pygmée										
La Grandière										
Massie	'03	115	11	2.2	26	120	10.5	2-1 pr.	3.3	11
Ham-Luong										
Corail	'92	128	16.4	3.9	..	295	8.4	6-1 pr.	..	35
Jules Davoust	'94	42.5	6.5	1.2	..	..	..	..	..	..
Mage	'88	60	13.1	..	25	..	5.5	2-1 pr.	..	11
Niger	'84	60	9.9	..	25	..	..	2-1 pr.	..	11

NOTES.—*Doucet*, *Rollandes*, *Jacquin*, *Onyx*, and *Opale* are stern-wheelers. *Bangui* has internal combustion engines. *Olry* is in China; *Bangui* on the Congo; *Léon Blot* on Lake Chad; *Boëni* in Madagascar; *Onyx* and *Opale* in Dahomey; *Jacquin*, *La Grandière*, *Massie*, and *Ham-Luong* in Tonkin.

Shri KVSS Prasad Rao

H.E. Mr Tariq Ahmed Karim

## SURVEYING SHIPS.

X **MANCHE** . . . Cherbourg, 16.10.90. Wood-built  
**VAUGLUSE** . . . Rochefort, 17.4.91. "  
 L., 210 ft. B., 34.5 ft. D. (mean), 15 ft. Disp., 1590 tons.  
 I.H.P. 790 = 11 kts. Coal cap., 197 tons.  
 Armament: 4-5.5 in. (old); 2-3.5 in. (old); 4-1 pr.  
 Compt. 115.

X **UTILE** . . . . . 1894  
 Disp., 405 tons.  
 I.H.P. 690 = 13 kts. Boilers, Niclausse. Compt. 56.

X **SONDE** . . . . . 1911  
 L., 65 ft. B., 15.2 ft. D., 5.7 ft. Disp., 50 tons. Speed: 10 kts.

## TRANSPORTS.

W **MEUSE** . . . Building. **CARONNE** . . 1913  
 Disp., 10,000 tons.  
 I.H.P. 2600 = 13 kts. Compt. 60.  
 (Carry 7000 tons of oil.)

W **RHÔNE** . . . . . 1910  
 Length, 351 ft. Beam, 45.9 ft. Disp., 7710 tons.  
 I.H.P. 2100 = 11 kts. Compt. 32.  
 (Carries 4000 tons of oil.)

X **SEINE** . . . . . 1913  
 L., 252 ft. B., 36.1 ft. Disp., 3100 tons.  
 I.H.P. 1775 = 12 kts. Compt. 76.

X **VINH-LONG** . Toulon, 1881. **CIRONDE** . Bordeaux, 1884  
 L., 344.5 ft. B., 50.5 ft. D., 21 ft. Disp., 5775 tons.  
 I.H.P. 2960 = 13.5 kts. Coal cap., 935/1310 tons.  
 Armament: 2-5.5 in.; 3-3.5 in.; 5-1 pr.  
 Compt. 312. (Hospital Ships.)

X **MEURTHE** . . . Rochefort, 1885. **AUBE** . . . Havre, 1886  
**NIEVRE** . . . . . Cherbourg, 1878  
 Sisters to *Manche* (above) but without armament.

X **JEANNE-BLANCHE** . . . . . 1883  
 Disp., 542 tons. I.H.P., 810 = 13.7 kts.  
 Armament: 1-1 pr. Compt. 38. (At Constantinople.)



## TRAINING SHIPS.

**Z BORDA.** Rochefort, 1853. (*ex* 90-gun wooden ship *Intrepide*.)  
Compt. 333. (Training Ship for Officers at Brest.)

**X CALÉDONIEN** . . . St. Nazaire, 1884. (*ex* Transport.)  
L., 232.7 ft. B., 54 ft. D. (mean), 21.6 ft. Disp., 3930 tons.  
I.H.P. 850=9.6 kts.  
Armament: 2-10.8 in.; 5-6.4 in.; 4-5.5 in.; 11-3.9; 2-9 pr.; 2-3 pr. Compt. 384. (Seagoing Training Ship.)

**X COURONNE** . . . 1861. (*ex* iron armoured frigate.)  
L., 262.4 ft. B., 52.4 ft. D. (mean), 26.2 ft. Disp., 6000 tons.  
Armament: 34 guns of various calibres for instructional purposes. Compt. 622. (Gunnery School Ship.)

**X DUGUAY TROUIN** . . . (ex *Tonkin*.)  
L., 345 ft. B., 50.5 ft. D., 22 ft. Disp., 5358 tons.  
I.H.P. 2960=13.3 kts.  
Armament: 6-5.5 in.; 5-1 pr. (Training Ship for Cadets.)

**X SAÔNE** . . Toulon, 1880. (*ex* Transport.) Wood-built  
L., 210 ft. B., 34.5 ft. D. (mean), 16.4 ft. Disp., 1575 tons.  
I.H.P. 665=10.7 kts. (Training Ship for Seamen.)

**X CHAMOIS** . . . Port De Bouc, 7.12.05  
L., 168.7 ft. B., 25.3 ft. D., 9.5 ft. Disp., 425 tons.  
I.H.P. 590=12 kts. Coal cap. 70 tons. (Navigation School Ship.)  
Boilers: Du Temple-Guyot. Compt. 113.

**X BOUGAINVILLE** . . . 1878. (ex *Allier*.)  
L., 210 ft. B., 34.5 ft. D. (mean), 16 ft. Disp., 1560 tons.  
I.H.P. 900=12 kts. Coal cap., 246 tons. (Tender to *Borda*.)  
Armament: 6-5.5 in.; 4-1 pr. Compt. 115.

**X MAGELLAN** . . . St. Nazaire, 1884  
L., 232.7 ft. B., 54 ft. D. (mean), 21.6 ft. Disp., 3928 tons.  
I.H.P. 850=9.3 kts. Coal cap., 413 tons.  
Compt. 384. (Training Ship for Boys.)

**X BAYONNAIS** . . . 1886 **SYLPHÉ** . . 1837  
(Wooden sailing brigs.)  
L., 144.7 ft. B., 32.7 ft. D., 14.4 ft. Disp. (abt.), 500 tons.  
(Tenders to *Calédonien* and *Borda* respectively.)

**X MUTIN** . . . 51 tons **RAILLEUR** . . . 52 tons  
(Sailing cutters. Tenders to *Chamois*.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**Ex TORPEDO BOATS ATTACHED AS TENDERS TO SCHOOLS OF GUNNERY AND TORPEDOES, TO SUBMARINE DEPÔTS, AND SCHOOLS OF ARTIFICERS AND STOKERS.**

X

Grenade (ex 135).	Gunnery school	Réchauffeur (ex 294)	Artificers and
Faillon (ex Balny).	Torpedo school		Stokers, Brest
Tet (ex Vedette C)	" "	Corsaire	" "
Gapeau (ex 93)	" "	Gravonne (ex 185)	" "
Siagne (ex 143)	" "	— (ex 221)	" "
Argens (ex 144)	" "	— (ex 250)	" "
Huveaune (ex 173)	" "	Grille (ex 130)	" "
Las (ex 178)	" "	Cendrier (ex 190).	Toulon
Averne	" "	Manomètre (ex 201)	" "
Brûlot (ex 128).	School of Pilots	Marteau (ex 208)	" "
Sifflet (ex 131).	Artificers and	Orage	" "
	Stokers, Brest	Périscopes (ex 140).	Submarine
Foyer (ex 215)	" "		depôt at Toulon
Bouilleur (ex 293)	" "	Ecouvillon (ex 26)	" "

W

**VAUBAN** . . . Cherbourg, 1882 (ex battleship). Sheathed and coppered L., 265.7 ft. B., 57.2 ft. D. (mean), 25.5 ft. Disp., 6055 tons. I.H.P. 4500=14.3 kts. Coal cap., 542 tons. Armour: Iron. Complete belt, 9.8 in. to 6.5 in.; barbettes, 7.9 in. (compound); C.T., 2 in.; deck, flat on belt, 2 in. Armament: 4-9.4 in.; 1-7.6 in.; 6-5.5 in.; 1-3.5 in.; 6-3 pr.; 12-1 pr. (all old). Torpedo tubes, 2 above water. (Torpedo Dépôt Ship.)

W

**DUFFCHAFFAULT** . . . . . 1872 (ex cruiser). Wood-built L., 204.6 ft. B., 34.2 ft. Disp., 1270 tons. I.H.P. 1185=12 kts. (Collier with Temperleys.)

X

**DRÔME** . . . . . Rouen, 3.3.87 L., 236 ft. B., 31.5 ft. D. (mean), 16.5 ft. Disp., 2165 tons. I.H.P. 890=11 kts. Armament: 2-1 pr. Compt. 60. (Transport.)

X

**CHARENTE** . . . . . La Seyne, 1883 L., 213 ft. B., 27.5 ft. D. (mean), 16.3 ft. Disp., 1575 tons. I.H.P. 475=9.7 kts. Armament: 2-1 pr. Compt. 56. (Cable Ship.)

X

**LOIRET** . . . . . Bought 1900 (ex Paris) Speed, 11.5 kts. (Cargo Steamer.)

X

**TUYEN-QUAN** . . . . . Yacht in Tonkin

## TUGS, ETC.

## X-Z

Abervrac'h (Belleville boilers)  
 Albatros (Fishery Protection  
 steamer. '03. I.H.P. 275  
 =11 kts.)

Alerte (bought '99)

Blavet (140 H.P.)

Bœuf (600 H.P., '08)

Bonsonge

Bouclier (160 H.P.)

Buffle

Castor

Centaure (1500 H.P.) Tug  
 and mooring vessel. Bldg.

Chélif

Cimeterre (160 H.P.)

Crabe

Cyclope

Dromadaire

Estafette (bought '03).  
 Fishery Protection. 10  
 kts.

Etang (600 H.P., '08)

Fairplay (bought '98)

Faron

Folgoët (320 H.P.)

Fourmi (80 H.P.)

Girafe

Goliath (I.H.P. 1400)

Golo (Fishery Protection  
 steamer. 13 kts.)

Hâleur (675 H.P.)

Hareng (Fishery Protection)

Hercule (Nicl. blrs., 500 H.P.)

Infatigable (ex Roode-Zee.  
 Bought '98)

Laborieux

Lagoubran

Larmor (125 H.P.)

Les Flamandes (oil lighter)

Louise

Marsouin

Mayenne

Médine

Menhir (Nicl. blrs., 500  
 H.P.)

Moissenet

Moufion

Néron (bought '99)

Penmané (370 H.P.)

Polyphème (Nicl. blrs., 500  
 H.P.)

Pradet (ex Marigot)

Samson

Sardine (Fishery Protection)

Sentinelles (bought '03).  
 Fishery Protection. 10  
 kts.

Seybouse

Taillebourg

Tapir ('09)

Tibre (ex Clorinde)

Titan (Nielausse blrs., 470  
 H.P.)

Topaze

Tourlaville (oil lighter)

Travailleur (Nicl. blrs., 1000  
 H.P.)

Wilhelmina Johanna  
 (bought '98)

Zèbre

Akba (tank)

Alcarazas (1900. Tank)

Como (tank)

Dryade (1900. Tank)

Jouvence (1900. Tank)

Puits ('02. Tank. 121 tons)

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuh,

## HARBOUR SHIPS.

Name.	Date.	Disp.	Description.	Service.	Station.
Z					
Adour . . . . .	'56	1,760	<i>ex</i> transport	Hulk	Tonkin
Bien-hoa . . . . .	'80	5,500	<i>ex</i> transport	Powder hulk	Toulon
Bretagne ( <i>ex</i> Mytho)	'70	5,775	<i>ex</i> transport	Hulk	Brest
Cédille . . . . .	'88	5,933	<i>ex</i> cruiser	Hulk. Torpedo school	..
Chasseloup-Laubat	'93	8,722	<i>ex</i> cruiser	School of Artificers	Toulon
Dévastation . . . . .	'79	10,000	<i>ex</i> battleship	School of Stokers	Brest
Fulminant . . . . .	'77	5,651	<i>ex</i> coast de- fence ship	Target ship	Lorient
Fulton . . . . .	..	..	<i>ex</i> despatch boat	Coal hulk	Lézardrieux
Grondeur . . . . .	'92	114	<i>ex</i> torp. boat	Hulk	Bidassoa
Lion . . . . .	'83	473	<i>ex</i> gunboat	Plot hulk	Saigon
Marigot . . . . .	..	..	..	Headquarters	Senegal
Nisus . . . . .	'50	996	<i>ex</i> sailing brig	Training ship for Boys	Brest
Pourvoyeur . . . . .	'78	5,539	<i>ex</i> sloop	Headquarters	Diégo Suarez
Tonnerre . . . . .	'75	..	<i>ex</i> coast de- fence ship	Target ship	Lorient
Vétéran . . . . .	..	..	..	Headquarters	Saigon
<i>ex</i> 194 . . . . .	'94	83	<i>ex</i> torp. boat	Target ship	Rochefort

## GERMANY

Establishment for 1917: 38 battleships, 20 large cruisers,  
38 small cruisers—all modern.

## BATTLESHIPS.

## A\*

<i>Ersatz Kaiser Wilhelm II.</i>	—	To be laid down, 1915.		
<i>Ersatz Kaiser Friedrich III.</i>	—	Ld. dn., 1914.	Ests. 1914	
<i>Ersatz Wörth</i> . . . . .	Dantzig. Bdg.	„ 30.9.13.	„ 1913	
"T" . . . . .	Howaldt.	„ „ „ „	„ „	

Disp. (about) 29,000 tons.

I.H.P.

Engines:

Trials:

Armour:

Armament: 8-15 in. (— cal.) in pairs in turrets; 16-5.9 in.;  
14-3.4 in.

Lieutenant General VR Raghavan,  
PVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.



## A

<b>KRONPRINZ</b>	Germania.	C. 1915.	L. 21.2.14.	B. 5.12.	E. 1912
<b>GROSSER KURFÜRST</b>	Vulkan, Hamburg.	„ 1914	„ 5.5.13.	„ 7.11.	„ 1911
<b>MARKGRAF</b>	Bremen.	„ 1914	„ 4.6.13.	„ 7.11.	„ „
<b>KÖNIG</b>	Wilhelmshaven.	„ 1914	„ 1.3.13.	„ 5.11.	„ „

L., w.l. 573.2 ft. B., 96.8 ft. D. (mean), 27.2 ft. Disp., 25,293 tons.

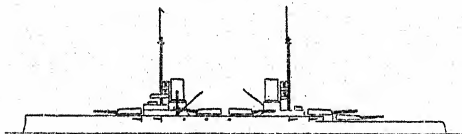
I.H.P. 27,620=20.5 kts. Coal cap., 1476/3543 tons. Oil, 590 tons.

Engines: Turbines—*Kronprinz* and *König*, Parsons; *Grosser Kurfürst*, A.E.G.; *Markgraf*, Bergmann. Boilers, Schultz.

Armour: Krupp. Complete belt and lower deck side, 13.8 in. amidships, 5.9 in. at ends; turrets and barbettes, 14 in.; battery, 7.1 in.

Armament: 10-12 in. (50 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 4 over No. 5; 14-5.9 in. in battery; 12-3.4 in. Torpedo tubes, 5 submerged, stern and broadside.

Compt. 1150.



## A

**PRINZREGENT LUITPOLD**

	Germania.	C. 19.8.13.	L. 17.2.12.	B. 11.10.	E. 1910
<b>KÖNIG ALBERT</b>	Danzig.	„ 31.7.13.	„ 27.4.12.	„ 7.10.	„ „
<b>KAISERIN</b>	Howaldt.	„ 14.5.13.	„ 11.11.11.	„ 7.10.	„ „
<b>FRIEDRICH DER GROSSE</b>					
	Vulkan, Hamburg.	„ 22.1.13.	„ 10.6.11.	„ 26.1.10.	„ 1909
<b>KAISER</b>	Kiel D.Y.	„ 7.12.12.	„ 22.3.11.	„ 10.09	„ „

L., w.l. 564.3 ft. B. 95.1 ft. D. (mean), 27.2 ft. Disp., 24,113 tons.

I.H.P. 27,620=20.5 kts. Coal cap., 984/3543 tons. Oil, 394 tons.

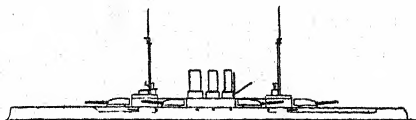
Engines: Turbine, *Friedrich der Grosse* and *Kaiser*, A.E.G. Others, Parsons. Boilers, Schultze.

Trials: *Kaiser*, I.H.P. 40,949=22.3 kts.; *Friedrich der Grosse*, I.H.P. 31,288=21.4 kts.; *Kaiserin*, I.H.P. 30,573=21.1 kts.; *König Albert*, I.H.P. 32,514=21.4 kts.

Armour: Krupp. Complete belt and lower deck side, 13.8 in. amidships, tapering to 5.9 in. forward and 5 in. aft; main deck side, 7.1 in. amidships, tapering to 5.9 in. forward; turrets and barbettes, 12 in.; battery, 7.1 in.; C.T., 12.6 in.; deck, 1.2 in.; deck above battery, 2.4 in.

Armament: 10-12 in. (50 cal.) in pairs in turrets, one forward, two diagonally amidships, two aft, No. 4 firing over No. 5; 14-5.9 in. (50 cal.) in battery; 12-3.4 in. Torpedo tubes, 5 submerged, stern, and broadside.

Compt. 1073.



## A

<b>OLDENBURG</b>	. Danzig.	C. 1.7.12.	L. 30.6.10.	B. 1.3.09.	E. 1909
<b>THÜRINGEN</b>	. Bremen.	„ 10.9 11.	„ 27.11.09.	„ 2.11.08.	„ 1908
<b>OSTFRIESLAND</b>	Wilhelmshaven.	„ 15.9.11.	„ 30.9.09.	„ 19.10.08.	„ „
<b>HELGOLAND</b>	. Howaldt.	„ 19.12.11.	„ 25.9.09.	„ 24.12.08.	„ „

L., w.l. 545.8 ft. B., 92.5 ft. D. (mean), 26.9 ft. Disp., 22,440 tons.

I.H.P. 27,630=20.5 kts. Coal cap., 885/2952 tons. Oil, 200 tons.

Engines: 3 sets 4 expans. by builders. Boilers, Schultz.

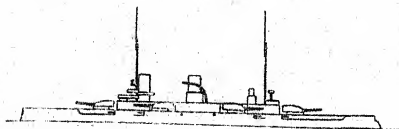
Trials: *Oldenburg*, I.H.P. 26,630=20 kts.; *Thüringen*, I.H.P. 35,410=21.2 kts.; *Ostfriesland*, I.H.P. 35,010=21.1 kts.; *Helgoland*, I.H.P. 30,820=20.8 kts.

Armour: Krupp. Complete belt, 11.8 in. amidships, tapering to 5.9 in. forward and 3.9 in. aft; turrets and barbettes, 11 in.; battery, 6.3 in. (All details doubtful.)

Armament: 12-12 in. (45 cal.) in pairs in turrets f. and a., and two on each beam; 14-5.9 in. (45 cal.) in battery; 14-3.4 in. (24 pr.). Torpedo tubes, 6-19.5 in. submerged, bow, stern, and broadside.

Compt. 1107.





## A

<b>POSEN</b>	Germania.	C. 20.9.10.	L. 12.12.08.	B. 8.07.	E. 1907
<b>RHEINLAND</b>	Stettin.	„ 20.9.10.	„ 26.9.08.	„ 8.07.	„ „
<b>WESTFALEN</b>	Bremen.	„ 3.5.10.	„ 1.7.08.	„ 7.07.	„ 1906
<b>NASSAU</b>	Wilhelmshaven.	„ 3.5.10.	„ 7.3.08.	„ 22.7.07.	„ „

Length, p.p. 451.7 ft. ; w.l. 477.9 ft. Beam, 88.3 ft. Draught (mean), 26.6 ft. Disp., 18,602 tons.

I.H.P. 19,735=19.5 kts. Coal cap., 885/2655 tons. Oil, 200 tons.

Engines : 3 sets 3 expans. by builders. Boilers, Schultz.

Trials : *Posen*, I.H.P. 27,745=20 kts. ; *Rheinland*, I.H.P. 27,030=20 kts. ; *Westfalen*, I.H.P. 27,104=20.3 kts. ; *Nassau*, I.H.P. 25,508=20 kts.

Armour : Krupp. Complete belt, 11.8 in. amidships, tapering to 5.9 in. forward and 3.9 in. aft ; lower deck side, 7.9 in. amidships, 3.9 in. narrow belt at ends ; turrets and barbettes, 11 in. ; battery, 6.1 in. ; C.T., 11.8 in. ; deck, sloping, 2.9 in.

Armament : 12—11 in. (45 cal.) in pairs in turrets, one forward, one aft, and two on each beam ; 12—5.9 in. (45 cal.) in battery ; 16—3.4 in. (24 pr.). Torpedo tubes, 6—18 in. submerged, bow, stern, and broadside.

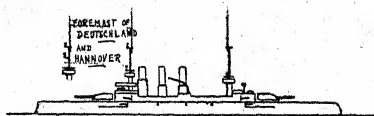
Compt. 961.

(The *Nassau* was laid down originally in July 1906, but on the building of the *Dreadnought* her plans were changed and her construction really began a year later, as given.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



## C

<b>SGHLESIEN</b>	Danzig,	28.5.06.	I.d. dn.	Sum. 05.	Ests. 190
<b>SCHLESWIG-HOLSTEIN</b>	Germania,	17.12.06.	"	"	" "
<b>HANNOVER</b>	Wilhelmshaven,	20.9.05	"	4.04.	" 1904
<b>POMMERN</b>	Stettin,	2.12.05.	"	4.04.	" "
<b>DEUTSCHLAND</b>	Germania,	19.11.04	"	20.6.03.	" 1903

Length, p.p. 398.5 ft. ; w.l. 413 ft. ; o.a. 430 ft. Beam, 72.9 ft.  
 Draught (mean), 25.2 ft. Disp., 12,997 tons.

I.H.P. 15,780=18 kts. Coal cap., 688/1772 tons. Oil, 200 tons.

Engines: 3 sets 3 expans. by builders. Boilers, Schultz.  
 (*Deutschland*, Schultz and cylindrical.)

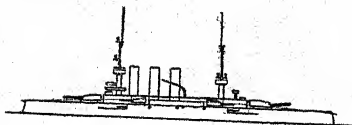
Trials: *Schlesien*, I.H.P. 19,208=19.2 kts. ; *Schleswig-Holstein*,  
 I.H.P. 19,605=19.5 kts. ; *Hannover*, I.H.P. 22,194=19.1  
 kts. ; *Pommern*, I.H.P. 20,089=19.2 kts. ; *Deutschland*,  
 I.H.P. 17,280=18.5 kts.

Armour: Krupp. Complete belt about 7 ft. wide, 9.4 in. amidships, tapering to 3.9 in. at ends ; lower edge amidships, 6.7 in. ; lower deck side amidships, 8 in. to 4.9 in. ; turrets and barbettes, 11 in. to 9.8 in. ; battery and casemates, 6.7 in. ; C.T., 11.8 in., with 9.8 in. tube ; S.T., aft, 5.5 in. ; deck, 2.9 in. on slopes, 1.6 in. on flat.

(*Deutschland* has belt maximum 8.9 in., battery and casemates 6.3 in.)

Armament: 4-11 in. (40 cal.) in pairs in turrets f. and a. ; 14-6.7 in. (40 cal.), ten in battery on main deck, four in casemates on upper deck ; 20-3.4 in. (24 pr.) ; 4 M. Torpedo tubes, 6-18 in. submerged, bow, stern, and broadside.

Compt. 729.



## C

<b>LOTHRINGEN</b>	. . . Danzig,	27.5.04.	Ld. dn. 1.12.02.	Ests. 1902
<b>PREUSSEN</b>	. . . Stettin,	31.10.03.	" 14.6.02.	" "
<b>HESSEN</b>	. . . Germania,	18.9.03.	" 15.4.02.	" "
<b>ELSASS</b>	. . . Danzig,	26.5.03.	" 5.9.01.	" 1901
<b>BRAUNSCHWEIG</b>	. Germania,	20.12.02.	" 24.10.01.	" "

Length, p.p. 398.5 ft. ; w.l. 413 ft. ; o.a. 430 ft. Beam, 72.9 ft.  
 Draught (mean), 25.2 ft. Disp., 12,997 tons.

I.H.P. 15,780=18 kts. Coal cap., 688/1625 tons. Oil, 200 tons.

Engines: 3 sets 3 expans. by builders. Boilers, Schultz and cylindrical.

Trials: *Lothringen*, I.H.P. 16,726=18.5 kts. ; *Preussen*, I.H.P. 18,131=18.7 kts. ; *Hessen*, I.H.P. 16,676=18.2 kts. ; *Elsass*, I.H.P. 16,590=18.7 kts. ; *Braunschweig*, I.H.P. 17,083=18.6 kts.

Armour: Krupp. Complete belt, about 7 ft. wide, 8.9 in. amidships, tapering to 3.9 in. at ends ; lower edge amidships, 6.7 in. ; lower deck side amidships, 5.5 in. ; main turrets and barbettes, 11 in. to 9.8 in. ; secondary turrets, 6.7 in. ; battery, 5.9 in. ; C.T., 11.8 in. ; S.T., aft, 5.5 in. ; deck, 2.9 in. on slopes, 1.6 in. on flat.

Armament: 4—11 in. (40 cal.) in pairs in turrets f. and a. ; 14—6.7 in. (40 cal.), ten in battery on main deck, four singly in turrets on upper deck ; 18—3.4 in. (24 pr.) ; 4 M. Torpedo tubes, 6—18 in. submerged, bow, stern, and broadside.

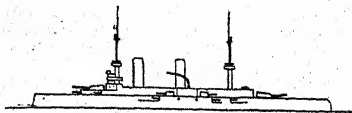
Compt. 691.

(These ships are very similar to the *Deutschland* class.)

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli



## C

<b>MECKLENBURG</b>	Stettin,	9.11.01.	Ld. dn. 15.5.00.	Ests. 1900
<b>SCHWABEN</b>	Wilhelmshaven,	19.8.01.	" 14.11.00.	" "
<b>ZÄHRINGEN</b>	Germania,	12.6.01.	" 21.11.99.	" 1899
<b>WETTIN</b>	Danzig,	6.6.01.	" 10.10.99.	" "
<b>WITTELSBACH</b>	Wilhelmshaven,	3.7.00.	" 30.9.99	" "

Length, p.p. 393.6 ft.; w.l. 410.7 ft.; o.a. 416.6 ft. Beam, 68.2 ft. Draught (mean), 25 ft.; (max.), 28 ft. Disp., 11,643 tons.

I. H.P. 13,410=18 kts. Coal cap., 640/1770 tons. Oil, 200 tons.

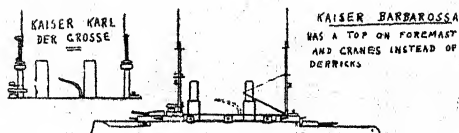
Engines: 3 sets 3 expans. Boilers, *Wettin* and *Wittelsbach*, Thornycroft and cylindrical; others, Schultz and cylindrical.

Trials: *Mecklenburg*, I.H.P. 14,165=18.1 kts.; *Schwaben*, I.H.P. =18 kts.; *Zähringen*, I.H.P. =19 kts.; *Wettin*, I.H.P. 14,311=18 kts.; *Wittelsbach*, I.H.P. 14,291=18 kts.

Armour: Krupp. Complete belt, 7.5 ft. wide, 8.9 in. amidships, 3.9 in. at ends; lower edge amidships, 6.7 in.; bulkheads, 5.9 in.; lower deck, side, amidships, and battery, 5.5 in.; main turrets and barbettes, 9.8 in.; secondary turrets and casemates, forward, 5.9 in.; C.T., 9.8 in.; S.T., aft, 5.9 in.; deck, 2.9 in. on slopes, 1.6 on flat; deck over battery, 1.2 in. to 1.6 in.

Armament: 4-9.4 in. (40 cal.) in pairs in turrets f. and a.; 18-5.9 in. (40 cal.), ten in main deck battery, four singly in turrets on upper deck, four in casemate round forward barrette; 12-3.4 in. (16 pr.); 4 M. Torpedo tubes, 5-18 in. submerged, bow and broadside.

Compt. 660.



## C

**KAISER BARBAROSSA**

Danzig, 21.4.00. Ld. dn. 3.8.98. Reconstd. 1907

**KAISER WILHELM DER GROSSE**

Germania, 1.6.99. " 22.1.98. " 1908

**KAISER WILHELM II.**

Wilhelmshaven, 14.9.97. " 26.10.96. " "

**KAISER FRIEDRICH III.**

Wilhelmshaven, 1.7.96. " 5.4.95. " "

**KAISER KARL DER GROSSE**

Hamburg, 18.10.99. " 17.9.98. " "

Length, p.p. 377.3 ft.; w.l. 396.6 ft. Beam, 66.9 ft. Draught (mean), 25.7 ft. Disp., 10,974 tons (*K. d. Grosse* somewhat greater).

I.H.P. 12,830=18 kts. Coal cap., 640/1043 tons. Oil, 200 tons.

Engines: 3 sets 3 expans. Boilers, *K. Friedrich III.* and *K. Barbarossa*, Thornycroft and cylindrical; others, Schultz and cylindrical.

All did 18 kts. or more on trial.

Armour: Krupp. Belt from bow to after turret, 6.6 ft. wide, 11.8 in. amidships, tapering to 3.9 in. at bow; lower edge amidships, 5.9 in.; after bulkhead, 7.9 in.; main turrets and barbettes, 9.8 in.; secondary turrets and casemates, 5.9 in. with 4-in. hoists; C.T., 9.8 in.; deck, flat on belt, 2.6 in.; sloping at stern, 2.9 in.

Armament: 4-9.4 in. (40 cal.) in pairs in turrets f. and a.; 14-5.9 in. (40 cal.) on upper deck, eight in casemates, six singly in turrets; (*K. d. Grosse* has also 4-5.9 in. casemates on main deck, making eighteen in all); 12-3.4 in. (16 pr.); 4 M. Torpedo tubes, 5-18 in. submerged, bow and broadside.

Compt. 658.

Lieutenant General VR Raghavan

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli



**D WÜRTH** . . . . . Germania, 6.8.92. Ld. dn. Spring 1890  
**BRANDENBURG** . . . Stettin, 21.9.91. " " "

L., p.p. 354.2 ft.; w.l. 373.7 ft.; o.a. 380.5 ft. B., 64 ft. D. (mean), 24.3 ft. Disp., 9874 tons. 2 screws.

I.H.P. 9865=17 kts. Coal cap., 620/1033 tons. Oil, 110 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical (1902).

Armour: Compound. Complete belt, 6.6 ft. wide, 15.8 in. at top and 7.9 in. at bottom amidships, 11.8 in. at top and 7.1 in. at bottom at ends; barbettes, 11.8 in., with 4.7 in. turrets; battery, 1.7 in.; C.T., 11.8 in.; deck, flat on belt, 2.5 in.

Armament: 6-11 in. (old) in pairs in turrets on centre line; 8-4.1 in. (35 cal.) in battery; 8-3.4 in. (16 pr.); 10-1 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 579.

(Two sister ships were sold to Turkey in 1910.)

## COAST DEFENCE BATTLESHIPS.

**D**

<b>ÆGIR</b> . . . Kiel,	3.4.95	<b>ODIN</b> . . . Danzig D.Y.,	3.11.94
<b>HAGEN</b> . . . Wilhelmshaven,	21.10.93	<b>HEIMDALL</b> Kiel,	27.7.92
<b>HILDEBRAND</b> Kiel,	6.8.92	<b>FRITHJOF</b> Bremen,	21.7.91
<b>BEOWULF</b> . . Bremen,	8.11.90	<b>SIEGFRIED</b> Germania,	10.8.89

L., p.p. (as lengthened, 1900/2) 267 ft. B., 48.7 ft. (but *Ægir* and *Odin*, L., 263.7 ft. B., 49.1 ft.). D. (mean), 17.7 ft. Disp., 4084 tons. (*Ægir* and *Odin*, 4049 tons.)

I.H.P. 4920=15.5 kts. Boilers, Schultz.

Armour: Compound. Complete belt, 9.5 in. amidships, 7.1 in. at ends; barbettes, 7.9 in., with 5.5 in. turrets; C.T., 7.1 in.; deck, flat on belt, 2 in. to 1.2 in. (*Ægir* and *Odin* have Nickel steel partial belt, 8.6 in.; C.T. 6.7 in., and deck, 2.7 in. to 2 in.)

Armament: 3-9.4 in. (35 cal.) in three turrets, two abreast forward, one aft; 10-3.4 in. (16 pr.); 6-1 pr.; 4 M. Torpedo tubes, 3-18 in. submerged, bow and broadside,

Compt. 303.

## LARGE CRUISERS.

## A

<i>Ersatz Viktoria Louise</i>	. . .	C. —	L. —	B. 1914	E. 1914
<i>Ersatz Hertha</i>	Wilhelmshaven.	„ —	„ —	„ 30.6.13.	„ 1913
<b>LÜTZOW</b>	. . . . . Danzig.	„ —	„ 29.11.13.	„ 7.12.	„ 1912
<b>DERFFLINGER</b>	. . Hamburg.	„ 1914	„ 1.7.13.	„ 1.12.	„ 1911

Length, 718 ft. Beam, 98 ft. Draught (max.), 27 ft.  
 Disp. (about) 28,000 tons.

I.H.P. 98,640=30 kts.

Engines: Parsons turbines. Boilers, Schultz.

Armour: Krupp.

Armament: 8-12 in. (50 cal.) in pairs in turrets on centre line  
 (No. 2 firing over No. 1, and No. 3 over No. 4); 12-5.9 in.  
 (50 cal.) in battery; -3.4 in. (24 pr.), etc.

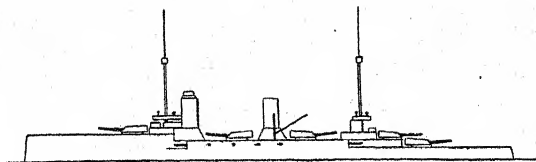
(All details very doubtful. These ships may be divided  
 into two or more classes.)

(See also p. 237.)

Lieutenant General VR Raghavan.

FVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**A**

**SEYDLITZ** . . Hamburg. C. 17.8.13. L. 30.3.12. B. 4.2.11. E. 1910

Length, w.l. 656.2 ft.<sup>2</sup> Beam, 93.5 ft. Draught (max.), 26.9 ft.  
Disp., 24,605 tons.

I.H.P. 62,190=25.5 kts. (nominal). Coal cap., /3542 tons.

Engines: Parsons turbines by builders. Boilers, Schultz.

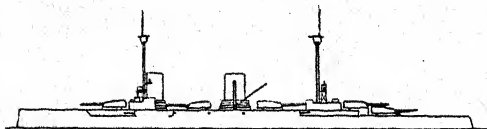
Trials: I.H.P. 72,915=26.7 kts.

Armour: Krupp. Complete belt about 15 ft. wide, 11 in. maximum for about 400 ft., 3.9 at ends. Turrets and barbettes, 9.8 in. Battery, 5.9 in.

Armament: 10-11 in. (50 cal.) in pairs in turrets, one forward, two diagonally amidships, two aft (No. 4 firing over No. 5); 12-5.9 in. (50 cal.) in battery; 12-3.4 in. (24 pr.); 2 M. Torpedo tubes, 4 submerged, broadside, bow, and stern.

Compt. 1108.





## A

**MOLTKE** . . . Hamburg. „ 31.3.12. „ 7.4.10. „ 4.09. „ 1903

Length, w.l. 610.2 ft.; o.a.            ft. Beam, 96.8 ft. Draught  
(mean), 26.9 ft. Disp., 22,635 tons.

I.H.P. (nominal) 51,320=25.5 kts. Coal cap., 984/3053 tons.

Engines: Parsons turbines by builders. Boilers, Schultz.

Trials: I.H.P. 75,746=27.2 kts.

Armour: Krupp. Complete belt about 15 ft. wide, 11 in.  
maximum for about 390 ft., 3.9 in. at ends; turrets and  
barbettes, 7.9 in.; battery, 4.9 in.

Armament: 10-11 in. (45 cal.) in pairs in turrets, one forward,  
two diagonally amidships, two aft (No. 4 firing over No. 5);  
12-5.9 in. (45 cal.) in battery; 12-3.4 in. (24 pr.). Torpedo  
tubes, 4-19.5 in. submerged, bow, stern, and broadside.

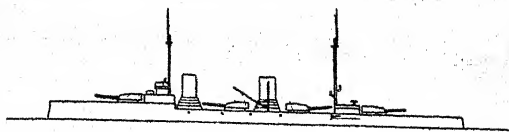
Compt. 1013.

(*Goeben*, a sister ship, sold to Turkey in 1914 and renamed  
*Yavuz Sultan Selim* (see p. 335), but there seems some doubt  
about her present status.)

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli, V

**A**

**VON DER TANN** Hamburg. O. 1.9.10. L. 20.3.09. B. 25.3.08. E. 1907

Length, w.l. 562.6 ft. ; o.a.      ft. Beam, 86.2 ft. Draught  
(mean), 26.6 ft. Disp., 18,800 tons.

I.H.P. (nominal) 43,030 = 25 kts. Coal cap., 985/2755 tons.

Engines : 4 sets Parsons turbines by builders. Boilers, Schultz.

Trials : I.H.P. 70,550 = 27.6 kts.

Armour : Krupp. Complete belt about 14 ft. wide amidships and 11 ft. at ends, 9.8 in. maximum tapering to 3.9 in. at ends ; turrets, 7.9 in. ; barbettes, 5.9 in. ; battery, 4.5 in.

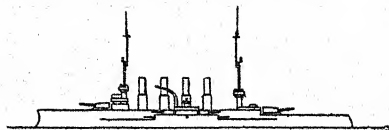
Armament : 8—11 in. (45 cal.) in pairs in turrets, one f. one a., two diagonally amidships ; 10—5.9 in. (45 cal.) in battery ; 16—3.4 in. (24 pr.). Torpedo tubes, 4—19.5 in. submerged, bow, stern, and broadside.

Compt. 910.

## ARMoured CRUISERS.

(*Blücher*, a 15,550-ton Armoured Cruiser, launched in 1908, was sunk in 1915.)

(*Scharnhorst* and *Gneisenau*, Armoured Cruisers of 11,420 tons, launched in 1906, were sunk in 1914.)



F ROON. . . . Kiel, 27.6.03. Ld. dn. 1.8.02. Ests. 1902

Length, p.p. 403.5 ft. ; w.l. 417.6 ft. Beam, 66.2 ft. Draught (mean), 24 ft. ; (max.), 25.7 ft. Disp., 9350 tons.

I.H.P. 18,740=21 kts. Coal cap., 740/1575 tons. Oil, 200 tons.

Engines: 3 sets 3 expans. by builders. Boilers, Dürr.

Trials: I.H.P. 20,350=21.2 kts.

Armour: Krupp. Complete belt, 7.5 ft. wide, 3.9 in. amidships, 3.1 in. at ends; lower deck, side amidships, battery and secondary turrets, 3.9 in. ; main turrets and barbettes, 5.9 in. with 3.9 in. hoists; C.T., 5.9 in. ; S.T. aft, 3.1 in. ; deck, 2 in. on slopes, 1.6 in. on flat.

Armament: 4-8.2 in. (40 cal.) in pairs in turrets f. and a. ; 10-5.9 in. (40 cal.), six in main deck battery, four singly in turrets on upper deck; 14-3.4 in. (24 pr.) ; 4 M. Torpedo tubes, 4-18 in. submerged, bow, stern, and broadside.

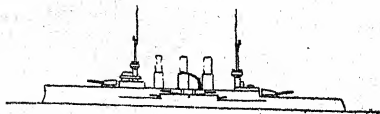
Compt. 616.

(*Forck*, sister ship, sunk 1914.)

Lieutenant General VR Raghavan,

PVSM, OYSM, AVSM (Retd)

Lieutenant General ML Fuli,

**F**

**PRINZ ADALBERT** . . . Kiel, 22.6.01. Ld. dn. 4.00. Ests. 1900

Length, p.p. 393.7 ft. ; w.l. 409.8 ft. Beam, 64.3 ft. Draught (mean), 24 ft. Disp., 8858 tons.

I.H.P. 16,770=20 kts. Coal cap., 985/1575 tons. Oil, 200 tons.

Engines: 3 sets 3 expans. Boilers, Dürr. 3 screws.

Trials: I.H.P. 17,565=20.3 kts.

**Armour:** Krupp. Complete belt, 7.5 ft. wide, 3.9 in. amidships, 3.1 in. at ends; lower deck, side amidships, battery and secondary turrets, 3.9 in. ; main turrets and barbettes, 5.9 in. with 3.9 in. hoists; C.T., 5.9 in. ; S.T. aft, 3.1 in. ; deck, 2 in. on slopes, 1.6 in. on flat.

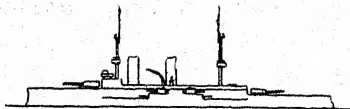
**Armament:** 4-8.2 in. (40 cal.) in pairs in turrets f. and a. ; 10-5.9 in. (40 cal.), six in main deck battery, four singly in turrets on upper deck; 12-3.4 in. (24 pr.) ; 4 M. Torpedo tubes, 4-18 in. submerged, bow, stern, and broadside.

Compt. 557.

(*Friedrich Karl*, sister ship, sunk 1914.)

## GERMANY:

F



**PRINZ HEINRICH** . . . . Kiel, 22.3.00. Laid down, 1.12.98

Length, p.p. 393.7 ft. ; w.l. 409.8 ft. Beam, 64.3 ft. Draught (mean), 24 ft. Disp., 8759 tons.

I.H.P. 14,800=20 kts. Coal cap., 740/1475 tons. Oil, 200 tons.

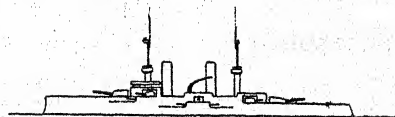
Engines: 3 sets 3 expans. Boilers, Dürr. 3 screws.

Armour: Krupp. Complete belt, about 7.5 ft. wide, 3.9 in. amidships, 3.1 in. at ends; lower deck side for 164 ft. amidships, battery and secondary turrets, 3.9 in. ; main turrets, 5.9 in., with 3.9 in. bases; C.T., 5.9 in. ; deck, 2 in. on slopes, 1.6 in. on flat.

Armament: 2-9.4 in. (40 cal.) in turrets f. and a. ; 10-5.9 in. (40 cal.), six in battery, four in turrets on upper deck; 10-3.4 in. (16 pr.) ; 4 M. Torpedo tubes, 4-18 in., three submerged, bow and broadside, 1 above water in stern.

Compt. 535.

E



**FÜRST BISMARCK** . . . . Kiel, 25.9.97. Laid down, 1.4.96

L., p.p. 393.7 ft. ; w.l. 412.4 ft. B., 66.9 ft. D. (mean), 25.9 ft. Disp., 10,570 tons. (Sheathed and Muntz-metalled.)

I.H.P. 13,420=19 kts. Coal cap., 984/1180 tons.

Engines: 3 sets 3 expans. Boilers, Schultz and cylindrical.

Armour: Krupp. Complete belt, 7.5 ft. wide, 7.9 in. amidships, 3.9 in. at ends; main turrets, shallow barbettes and hoists, 7.9 in. ; battery, casemates and secondary turrets, 3.9 in. ; C.T., 7.9 in. ; S.T. aft, 3.9 in. ; deck, flat on belt amidships, curved at ends, 2 in.

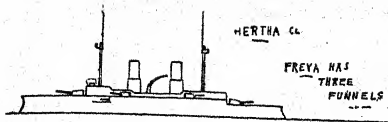
Armament: 4-9.4 in. (40 cal.) in pairs in turrets f. and a. ; 12-5.9 in. (40 cal.), six singly in turrets, four in battery, two in casemates; 10-3.4 in. (16 pr.) ; 14-1 pr. ; 4 M. Torpedo tubes, 4-18 in. ; three submerged, bow and broadside, one above water in stern.

Compt. 583.

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,



# PROTECTED CRUISERS

<b>FREYA</b> . . . . .	Danzig D.Y., 27.4.97.	Ld. dn. 10.95.	Recon. 1907-8
<b>HERTHA</b> . . . . .	Stettin, 14.4.97.	" 9.95.	" "
<b>HANSA</b> . . . . .	Stettin, 12.3.98.	" 3.96.	" "
<b>VINETA</b> . . . . .	Danzig D.Y., 9.12.97.	" 6.96.	" "
<b>VICTORIA LOUISE</b>	Bremen, 29.3.97.	" 9.95.	" "

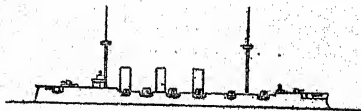
Length, p.p. 344.4 ft.; w.l. 357.7 ft. Beam, 57 ft. Draught (mean), 20.3 ft. Disp., 5569 tons (but *Hansa* and *Vineta* have Beam, 57.6 ft. Draught, 21.6 ft. Disp., 5791 tons). I.H.P. 10,360=19 kts. Coal cap., 885/985 tons. 3 screws.

Engines: 3 sets 3 expans. *Freya* by Germania; *Vineta* by Stettin; others by builders. Boilers: *Freya*, Niclausse; *Hansa*, Belleville; *Vineta*, Dürr; others, Schultz.

Armour: Deck, 3.9 in. amidships, 1.6 in. at ends; turrets and casemates, 3.9 in.; C.T., 5.9 in.

Armament: 2-8.2 in. (40 cal.) in turrets f. and a.; 6-5.9 in. (40 cal.), four singly in turrets, two in casemates; 8-3.4 in. (16 pr.); 10-1 pr.; 4 M. Torpedo tubes, 3-18 in. submerged, bow and broadside.

Compt. 473.



## **KAISERIN AUGUSTA** . . . Germania, 15.1.02. Laid down, 1890

Length, p.p. 387 ft.; w.l. 400.9 ft. Beam, 51.2 ft. Draught (mean), 22 ft. Disp., 5960 tons.

I.H.P. 11,840=20.7 kts. (21.5 on trial). Coal cap., 689/787 tons.

Engines: 3 sets 3 expans. Boilers, cylindrical.

Armour: Deck, 3 in. on slopes, 2 in. on flat.

Armament: 12-5.9 in. (35 cal.) in shields; 8-3.4 in. (16 pr.); 8 M. Torpedo tubes, 3-14 in. submerged in bow, above water on broadside.

Compt. 432.

## SMALL CRUISERS.

## G

? — ships . . . . . To be built.

*Ersatz Gazelle* . . . . . Laid down, 1914. Ests. 1914*Ersatz Niobe* . . . . . " " " "*Ersatz Gefion* . . . . . Stettin. Bdg. " 1913. " 1913*Ersatz Hela* . . . . . Kiel. " " " "

Length, Disp., 5440 tons.

I.H.P. 29,595=27 kts.

Engines: Turbines.

Armour:

Armament: 10—5.9 in.

## G

—— ex *Muraviev Amurskii* . . . . . Elbing, 1914. Ld. dn. 22.9.13—— ex *Nevelskoi* . . . . . " " " "

L., 401.8 ft. B., 45.9 ft. D. (mean), 16.4 ft. Disp., 4428 tons.

I.H.P. 27,030=27.5 kts. Coal cap., 984 tons.

Engines: Schichau turbines. Boilers, Schultze.

Armour: Krupp. Belt, 3 in.; deck, 1 in.

Armament: 8—4.7 in.; 4—9 pr. Torpedo tubes, 5—18 in. submerged.

(Built for Russia and seized 1914.)

Lieutenant General VR Raghavan.

PYSM, OYSM, AVSM (Retd)

Lieutenant General ML Tuli.

G

**REGENSBURG** . . . Bremen, 25.4.14. Laid down, 1912. Ests. 1912  
**GRAUDENZ** . . . Kiel, 25.10.13. " " " "  
**ROSTOCK** . . . Howaldt, 12.11.12. " 1911. " 1911

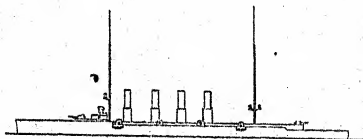
L., w.l. 456 ft. B., 44.9 ft. D. (mean), 17.4. Disp., 4822 tons.  
 I.H.P. 25,660=27 kts.

Engines: Turbines.

Boilers, Schultz.

Armour and Armament: As in *Strassburg* class.

(*Karlsruhe*, sister ship, lost 1914.)



G

**STRASSBURG** . . . Wilhelmshaven, 30.8.11. Ld. dn. 4.10. Ests. 1910  
**STRALSUND** . . . Bremen, 4.11.11. " 4.10. " "

L., w.l. 446.2 ft. B., 45.9 ft. D. (mean), 16.7 ft. Disp., 4478 tons.

I.H.P. 24,670=26 kts. Coal cap., 1108 tons.

Engines: Turbines. *Stralsund*, Bergmann; *Strassburg*, Parsons.  
 Boilers, Schultz.

Trials: *Strassburg*, I.H.P. 25,297=26.9 kts. *Stralsund*, I.H.P.  
 26,663=26.9 kts.

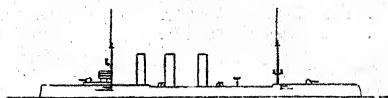
Armour: Krupp. Belt amidships, 3.9 to 2.4 in.; deck, 2 in. to  
 .8 in.; C.T., 3.9 in. to 3.1 in.

Armament: 12-4.1 in. (45 cal.); 2 M. Torpedo tubes, 2-20 in.  
 submerged, broadside.

Compt. 373.

(*Magdeburg*, sister ship, destroyed 1914. *Breslau*, sister ship,  
 sold to Turkey, 1914, and renamed *Midilli* (see p. 386), but  
 there seems some doubt about her present status.)





**AUGSBURG** . . Kiel D.Y., 10.7.09. Laid down, 9.08. Estimates, 1908

**KOLBERG** . . Danzig, S., 14.11.08. „ 3.07. „ 1907

Length, p.p. 402 ft.; w.l. 426.5 ft. Beam, 46 ft. Draught (mean), 16.4 ft. Disp., 4280 tons.

I.H.P. 19,730=25.5 kts. Coal cap., 393/805 tons.

Engines: 4 sets turbines; *Augsburg*, Parsons; *Kolberg*, Schichau. Boilers, Schultz.

Trials: *Augsburg*, I.H.P. 30,910=27.0 kts.; *Kolberg*, I.H.P. 29,985=26.3 kts.

Armour: Deck, 2 in. to .8 in.; C.T., 3.9 in.

Armament: 12—4.1 in. (40 cal.); 2 M. Torpedo tubes, 2—18 in. submerged on broadside.

Compt. 379.

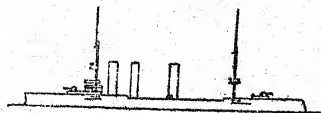
(*Köln* and *Mainz*, sister ships, sunk 1914. *Kolberg* reported sunk 1915.)

(*Emden* and *Dresden*, of 3592 tons, armed with 10—4.1 in. guns, sunk 1914 and 1915.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



<b>STETTIN</b> . . .	Stettin,	7.3.07.	Laid down, 1905	Ests. 1905
<b>STÜTTGART</b> . .	Danzig D.Y.,	22.9.06.	" "	" "

L., p.p. 362 ft.; w.l. 383.2 ft. B., 43.6 ft. D. (mean), 15.8 ft.  
Displ., 3396 tons.

I.H.P. 13,025=23.5 kts. Coal cap., 393/836 tons.

Engines: *Stettin*, Parsons turbines; *Stuttgart*, 2 sets 3 expans. Boilers, Schultz.

Trials: *Stettin*, I.H.P. 15,213=24 kts.; *Stuttgart*, I.H.P. 13,480=23.7 kts.

Armour: Deck, 1.8 in. on slopes, .8 in. on flat amidships, 1.4 in. forward, 1 in. aft; engine coamings, 3.9 in.; C.T., 3.9 in.

Armament: 10—4.1 in. (40 cal.); 2 M. Torpedo tubes, 2—18 in. submerged on broadside.

Compt. 322.

(*Nürnberg*, sister ship, sunk 1914. *Königsberg*, a very similar ship of 3348 tons, was trapped in the Ruaha River, East Africa, in 1914. She has been reported as destroyed, and is certainly lost to the German Navy.)



<b>DANZIG</b>	Danzig D.Y.,	23.9.05.	Laid down,	12.7.04.	Ests. 1904
<b>MÜNCHEN</b>	Bremen,	30.4.04.	"	18.8.03.	" 1903
<b>LÜBECK</b>	Stettin,	26.3.04.	"	12.5.03.	" "
<b>BERLIN</b>	Danzig D.Y.,	22.9.03.	"	1.4.02.	" 1902
<b>HAMBURG</b>	Stettin,	25.7.03.	"	1.4.02.	" "
<b>BREMEN</b>	Bremen,	9.7.03.	"	1.4.02	" "

L., p.p. 341 ft.; w.l. 362.5 ft. B., 43.3 ft. D. (mean), 16.4 ft.  
Disp., 3200 tons.

I.H.P. 10,855=23 kts. Coal cap., 393/787 tons.

Engines: *Lübeck*, Parsons turbines; others, 2 sets 3 expans. Boilers, Schultz.

Trials: *Danzig*, I.H.P. 12,165=22.9 kts.; *München*, I.H.P. 12,222=23.4 kts.; *Lübeck*, I.H.P. 13,843=23.5 kts.; *Berlin*, I.H.P. 10,712=23.2 kts.; *Hamburg*, I.H.P. 11,248=23.1 kts.; *Bremen*, I.H.P. 11,938=23.2 kts.

Armour: Deck, 2 in. to 8 in.; engine coamings and C.T., 3.9 in.  
Armament: 10-4.1 in. (40 cal.); 2 M. Torpedo tubes, 2-18 in. submerged on broadside.

Compt. 297.

(*Leipzig*, sister ship, sunk 1914.)

<b>UNDINE</b>	Howaldt,	28.12.02.	Laid down,	11.12.01.	Ests. 1901
<b>ARKONA</b>	Bremen,	22.4.02.	"	Sum. 1901.	" "
<b>FRAUENLOB</b>	Bremen,	22.3.02.	"	" "	" "

L., p.p. 328.1 ft.; w.l. 342.5 ft. B., 40.3 ft. D. (mean), 15.8 ft.  
Disp. 2672 tons.

I.H.P. 8500=21 kts. Coal cap., 393/689 tons.

Engines: 2 sets 3 expans. Boilers, Schultz.

Trials: *Undine*, I.H.P. = kts.; *Arkona*, I.H.P. 8473=21.0 kts.; *Frauenlob*, I.H.P. 8480=21.1 kts.

Armour: Deck, 2 in. to 8 in.; C.T., 3.9 in.

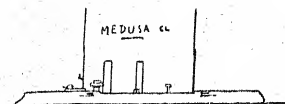
Armament: 10-4.1 in. (40 cal.); 2 M. Torpedo tubes, 2-18 in. submerged on broadside.

Compt. 275.

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,



J

<b>MEDUSA</b>	. . . .	Bremen,	5.12.00.	Ld. dn. 1.00.	Ests. 1900
<b>AMAZONE</b>	. . . .	Germania,	6.10.00.	" 12.99.	" "
<b>THETIS</b>	. . . .	Danzig D.Y.,	3.7.00.	" 9.99.	" "
<b>NYMPHE</b>	. . . .	Germania,	18.10.99.	" Autumn '98.	" 1898
<b>NIOBE</b>	. . . .	Bremen,	18.7.99.	" Summer '98.	" "
<b>GAZELLE</b>	. . . .	Germania,	31.3.98.	" Spring '97.	" 1896

L., p.p. 328.1 ft.; w.l. 342.5 ft. B., 38.7 ft. D. (mean), 15.8 ft.  
Disp., 2618 tons. (*Niobe* and *Gazelle*, Disp., 2603 tons.)

I.H.P. 7890=21 kts. (*Gazelle*, 5920=19.5 kts.).

Engines: 2 sets 3 expans. Boilers, *Gazelle*, Nielausse; *Niobe*, Thornycroft; others, Schultz. Coal cap., 375/572 tons.

Trials: *Medusa*, I.H.P. 8809=22 kts.; *Amazona*, I.H.P. 8732=21.5 kts.; *Thetis*, I.H.P. 8770=21.7 kts.; *Nymphe*, I.H.P. 8880=22.3 kts.; *Niobe*, I.H.P. 8005=21.6 kts.; *Gazelle*, I.H.P. 6315=19.5 kts.

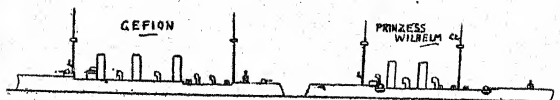
Armour: Deck, 2 in. to 3 in.; C.T., 3.1 in. to 2.7 in.

Armament: 10-4.1 in. (40 cal.); 2 M. Torpedo tubes, 2-18 in. submerged on broadside.

Compt. 269 (*Niobe* and *Gazelle*, 266).

(*Gazelle* torpedoed 1915 and badly damaged. *Ariadne*, sister ship, sunk 1914.)

(*Hela*, 2003-ton cruiser, built in 1895, sunk 1914.)



I

**GEFION** . . . . . Danzig, S., 31.5.93. Laid down, 28.3.92

L., p.p. 345 ft.; w.l. 353 ft. B., 43.3 ft. D. (mean), 19.4 ft.  
Disp., 3710 tons.

I.H.P. 8880=20 kts. Coal cap., 738 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Trials: I.H.P. 9,700=20.5.

Armour: Deck, amidships only, 1.2 in.; over steering gear, 1 in.;  
engine coamings, 3.9 in.

Armament: 10—4.1 in. (35 cal.); 6—4 pr.; 4 M.

Compt. 293.

I

**PRINZESS WILHELM**. Germania, 22.9.87. Laid down, 1886. Sheathed  
**IRENE** . . . . . Stettin, 23.7.87. " " "

L., p.p. 287 ft.; w.l. 324.5 ft. B., 46 ft. D. (mean), 21 ft.  
Disp., 4234 tons.

I.H.P. 7894=18.5 kts. Coal cap., 532/738 tons.

Engines: 2 sets horizontal compound. Boilers, cylindrical.

Armour: Deck, 3 in. on slopes, 2 in. on flat; engine coamings,  
4.7 in.; C.T., 3.1 in.

Armament: 4—5.9 in. (30 cal.); 8—4.1 in. (35 cal.); 6—4 pr.  
Torpedo tubes, 3—14 in., one submerged in bow, two above  
water on broadside.

Compt. 350.

Lieutenant General VR Raghavan,

FVSM, UYSM, AVSM (Retd)

Lieutenant General ML Toli.



## UNPROTECTED CRUISERS.

R

**GEIER** . . . Wilhelmshaven, 18.10.94 **CONDOR** . Hamburg, 23.2.92  
**FALKE** . . . Kiel D.Y., 4.4.91 **SEEDLER** Danzig D.Y., 2.2.92

**BUSSARD** . . . Danzig D.Y., 23.1.90

L., 250 ft. B., 32.8 ft. D. (mean), 14.5 ft. Disp., 1604 tons.  
 (Falke and Buzzard, 1545 tons.)

I.H.P. 2763=16 kts. Coal cap., 295 tons.

Engines: 2 sets horizontal 3 expans. Boilers, cylindrical.

Armament: 8-4.1 in. (35 cal.); 5-1 pr.; 2 M. Torpedo tubes,  
 2-14 in. above water. Compt. 160.

(Cormoran, sister ship, destroyed 1914. Geier is at present interned in Honolulu.)

R

**SPERBER** . . . Wilhelmshaven, 23.8.88

**SCHWALBE** . . . Wilhelmshaven, 16.8.87

L., 203 ft. B., 30.8 ft. D., 14.5 ft. Disp., 1103 tons.

I.H.P. 1480=14 kts. Coal cap., 236 tons.

Armament: 8-4.1 in. (35 cal.); 5-1 pr.; 2 M. Torpedo tubes,  
 2-14 in. above water. Compt. 100.



R

**GREIF** . . . Germania, 29.7.86

L., 317.6 ft. B., 32.2 ft. D., 14.8 ft. Disp., 2028 tons.

I.H.P. 5330=20 kts. Coal cap., 344 tons.

Engines: 2 sets compound. Boilers, cylindrical.

Armament: 8-3.4 in. (16 pr.); 4 M. Compt. 178.

R

**BLITZ** . . . Germania, 2.8.82 **PFEIL** . . . Wilhelmshaven, 16.9.82

L., 246 ft. B., 32.8 ft. D., 13.8 ft. Disp., 1368 tons.

I.H.P. 2665=16 kts. Coal cap., 197 tons.

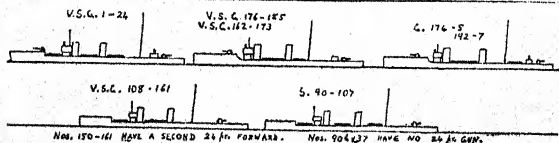
Engines: 2 sets compound. Boilers, cylindrical.

Armament: 6-3.4 in. (16 pr.); 4 M. Torpedo tubes, 3-14 in.;  
 one submerged in bow, two above water on broadside.

Compt. 125.

## DESTROYERS.

	Official Numbers.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Engines.	Speed.	Guns.	Tubes.	Coal.	Compt.
	<b>M</b>		ft.	ft.	ft.	tns.			kts.				tns.
12	—	'14/15	..	..	..	..	..	..	..				..
6	S. 31-36	'13/14	..	..	..	..	..	S	..				..
6	V. 25-30	'13/14	..	..	..	..	..	C	..				..
12	S. 13-24	'11/12	..	..	..	689	17,760	S	32.5		3	..	83
6	V. 1-6	'11/12	..	..	..	689	17,760	C	32.5		3	..	83
6	G. 7-12	'11/12	..	..	..	689	17,760	P	32.5		3	..	83
6	G. 192-197	'10/11	..	..	..	689	17,760	C	32.5		3	..	83
5	V. 186-188-191	'10/11	..	..	..	689	17,760	P	32.5	2-24 pr.; 2 M.	3	..	83
6	V. 180-185	'09/10	..	..	..	627	15,790	C	32.5		3	180	83
4	S. 176-179	'09/10	..	..	..	626	15,790	S	32.5		3	180	83
2	G. 174, 175	'09/10	..	..	..	644	15,790	P	32.5		3	180	83
5	G. 169-173	'08/9	..	..	..	626	13,815	P*	32		3	160	83
4	S. 165-168	'08/9	..	..	..	605	13,815	P	32		3	160	83
3	V. 162-164	'08/9	..	..	..	603	13,815	C	30		3	160	83
12	V. 150-161	'07/8	236.5	25.7	10	546	10,115	R*	30		3	175	83
12	S. 138-149	'06/7	231	25.7	8.9	517	9,870	R	29.5	1-24 pr.; 3-4 pr.; 2 M.	3	170	80
1	G. 137	'06	234.6	25.2	9.9	563	10,660	P	33.1		3	170	80
	<b>N</b>												
5	G. 132-136	'06	215.5	23	7.6	479	6,415	R	28	4-4 pr.; 2 M.	3	135	60
5	S. 127-131	'04/5	210	23	7.6	477	6,415	R	28		3	135	50
6	S. 120-125	'04	210	23	7.6	463	6,415	R*	28		3	116	56
2	S. 114, 116	'02/3	210	23	7.6	413	6,415	R	28	3-4 pr.; 2 M.	3	116	56
6	G. 108-113	'01/2	207	23	7.6	396	5,525	R	28		3	116	56
6	S. 102-107	'00/1	207	23	7.6	396	5,330	R	27		3	116	56
11	S. 91-101	'99/00	207	23	7.6	396	5,330	R	26.5		3	116	56
1	D. 10 (T.)	'98	211.8	19.5	7.5	350	5,430	R	28	5-4 pr.	3	116	50
1	D. 9 (S.)	'94	207	25.2	12	874	4,035	R	24		3	106	48
2	D. 7, 8 (S.)	'91	197	23	11.5	345	3,950	R	23		..	76	48
2	D. 5, 6 (S.)	'88	190	23	11.5	315	3,550	R	23	3-4 pr.	..	86	48
2	D. 3, 4 (S.)	'87	188	21.5	10.5	295	2,465	R	21		..	76	48



Lieutenant General VR Raghavan,

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Lieutenant General ML Tuli,

## NOTES ON DESTROYERS.

These are officially called "Large Torpedo Boats." "S" boats built by Schichau at Elbing or Danzig; "G" at Germania Yard, Kiel; "V" at Vulkan Yard, Danzig. *S.91-101* have Thornycroft Boilers, *D.10*, Yarrow (new); all others, Schultz. *D.10* built by Thornycroft. *S.97* named *Steppner* and used as tender to Imperial yacht. Engines: C=Curtis (A.L.G.) turbines; P=Parsons turbines; S=Schichau turbines; R=Reciprocating. *G.173* has Zoelly turbines; *V.161*, Curtis; *S.135*, Parsons. *G.174* and later boats have 19-7-in. tubes; others, 18-in.

## TORPEDO BOATS.

	Official Numbers.	Date.	Length.	Beam.	Draught.	Disp.	H.P.	Speed.	Boilers.	Guns.	Tubes.	Coal.	Compt.
	O		ft.	ft.	ft.	tons.		kts.				tns.	
22	G.88, 89.	'98	154.3	16.4	9.5	158	1775	15	S			36	24
	T.82-87.	'98	158.2	16.7	9.2	153	1775	15	T			32	24
	T.74-81.	'98/5	154.3	17.4	8.4	151	1775	15	L			53	16
	T.66-73.	'91/2	154.3	16.0	8.5	145	1330	12	L			37	16
23	{ T.42-47 and T.49-65 }	'89/90	144.7	16.4	7.2	130/150	1330	22	L	1-4 pr. 1-4 pr.	3	40/53	16

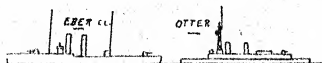
NOTES ON TORPEDO BOATS.—There are also twenty-three old boats of 17 kts. speed or less. The "T" boats were formerly numbered *S.42-87*, and were built by Schichau. Boilers: S=Schultz; T=Thornycroft; L=Locomotive. *T.74* has Thornycroft boilers.

## SUBMARINES.

	Official Numbers.	Date.	Builder.	Disp. above and below.	H.P. above and below.	Speed above and below.	Tubes.	Compt.
	S			ft.		kts.		
1	(ex Norwegian)	1914	G	200/255	440/250	12/9	3	12
1		Bdg.	F	..	..	..	..	..
8	U.28, 30-36	1913/4	D & G	..	..	..	..	..
9	U.19-27	1912/3	G	840/890	1800/	17/12	3	..
4	U.13, 14, 16, 17	1911/2	D	..	..	..	..	..
3	U.9-11	1910	D	246/295	..	..	..	..
3	U.5-7	1909/10	G	..	..	..	..	..
3	U.2-4	1908/9	D	200/255	600/320	15/8-5	2	..
1	U.1.	1906	G	/240	450/200	11/9	1	..

NOTE.—All particulars very doubtful. D=Danzig dockyard; F=F.I.A.T. Spezia. G=Germania.





## GUNBOATS.

R

**EBER** . . . . Stettin, 6.6.03      **PANTHER** . . . . Danzig D.Y., 1.4.01

L., 203 ft. B., 31.8 ft. D., 9.8 ft. Disp., 984 tons.

I.H.P. 1332=14 kts. Coal cap., 197 tons. Boilers, Schultz.

Armament: 2-4.1 in. (40 cal.); 6-1 pr.; 2 M.

Compt. 125.

(Composite built.)

(Luchs, Tiger, Jaguar and Illis, 886-ton gunboats, destroyed 1914.)

## RIVER GUNBOATS.

V

**OTTER** . . . . . Geestemünde, 15.9.00

L., 174 ft. B., 28.6 ft. D., 2.6 ft. Disp., 256 tons.

I.H.P. 1282=14 kts. Coal cap., 80 tons. Boilers, Schultz.

Armament: 2-4 pr. (55 cal.); 3 M.

Compt. 45.

## SUBMARINE SALVAGE SHIP.

W

**VULKAN** . . . . . Howaldt, 23.9.07

Two parallel hulls with upper works in common. A submarine can be lifted into the space between the hulls.

L., 229.6 ft. B., 75.4 ft.

Speed: 11 kts. Lifting power, 500 tons.

(Used also as a Submarine School Ship.)

## FISHERY CRUISER.

R

**ZIETEN** . . . . . Blackwall, 1876. Iron-built, 1 funnel, 2 masts

L., 196.8 ft. Bs., 28 ft. D. (mean), 11.5 ft. Disp., 994 tons.

I.H.P. 1775=13 kts. Coal cap., 140 tons.

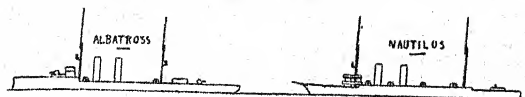
Armament: 6-4 pr. Torpedo tubes, 2 submerged, bow and stern.

Compt. 115.

Lieutenant General VR Raghavan.

PYSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**MINE-LAYERS.**

**W ALBATROSS** . . . . . Bremen, 18.10.07

L., o.a. 305 ft. B., 39.4 ft. D., 13.4 ft. Disp., 2165 tons.

I.H.P. 6410=20 kts. Coal cap., 197/492 tons.

Armament: 8-3.4 in. (24 pr.).

Compt. 201.

(This ship has been reported as sunk.)

**W NAUTILUS** . . . . . Bremen, 18.8.06

L., o.a. 296 ft. B., 36.2 ft. D., 13.1 ft. Disp., 1939 tons.

I.H.P. 5918=20 kts. • Otherwise same as *Albatross*.

**W PELIKAN** . . . . . Wilhelmshaven, 29.7.90

L., p.p. 259.2 ft. B., 39.4 ft. D., 14.7 ft. Disp., 2323 tons.

I.H.P. 2959=15 kts. Coal cap., 394 tons.

Armament: 4-3.4 in. (16 pr.); 4 M.

Compt. 214.

**TRAINING SHIPS.**

**x MARS** . Wilhelmshaven, 15.11.77. Iron-built, 1 funnel, 2 masts

L., 262.4 ft. B., 49.3 ft. D., 19 ft. Disp., 3267 tons.

I.H.P. 1973=11 kts. Coal cap., 266 tons.

Armament: Various guns for training purposes.

Compt. 348.

(Gunnery School.)

**x WÜRTTEMBERG** . . Stettin, 9.11.78. Reconstructed, 1898

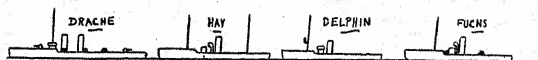
L., 298.5 ft. B., 50 ft. D., 19.7 ft. Disp., 7283 tons.

I.H.P. 5918=17 kts. Coal cap., 590 tons. Boilers, Schultz.

Armour: Iron. Short belt and redoubt, 16 in. to 6 in.;  
barbette, 16 in.

Armament (original): 6-10.2 in. (17 cal.); 10-3.4 in.; 14-1 pr.

Torpedo tubes, 5, two submerged. (Torpedo School.)



**X DRACHE . . . . . Germania, 11.6.08**

L., 177.3 ft. B., 29.6 ft. D., 9.8 ft. Disp., 905 tons.  
 I.H.P. 1578=15 kts. Coal cap., 147 tons.  
 Armament: 4-3.4 in. (24 pr.); 4-4 pr. (55 cal.).  
 Compt. 64. (Tender to *Mars*.)

**X HAY . . . . . Geestemünde, 7.8.07**

L., 138 ft. B., 27.1 ft. D., 9.8 ft. Disp., 630 tons.  
 I.H.P. 1083=12 kts. Coal cap., 74 tons.  
 Armament: 8-4 pr. (55 cal.).  
 Compt. 56. (Tender to *Mars*.)

**X FUCHS . . . . . Papenburg, 29.7.05**

L., 134.5 ft. B., 28.5 ft. D., 9.8 ft. Disp., 630 tons.  
 I.H.P. 1083=12 kts. Coal cap., 74 tons.  
 Armament: 2-4.1 in. (40 cal.); 2-3.4 in. (24 pr.).  
 Compt. 56. (Tender to *Mars*.)

**X DELPHIN . . . . . Howaldt, 25.1.06**

L., 124.7 ft. B., 27.1 ft. D., 9.5 ft. Disp., 438 tons.  
 I.H.P. 444=9.5 kts. Coal cap., 55 tons.  
 Armament: 4-3.4 in. (24 pr.).  
 Compt. 49. (Tender to *Mars*.)

**X GRILLE . . . . . Havre, 9.9.57. Wood-built**

L., 170.6 ft. B., 24.2 ft. D., 9.8 ft. Disp., 345 tons.  
 I.H.P. 720=13 kts. Coal cap., 60 tons.  
 Armament: 2-1 pr. Compt. 74. (Navigation School.)

**Z KÖNIG WILHELM . Blackwall, 1868. Reconstructed, 1898**  
 Disp., 9410 tons. Compt. 1152. (Floating Barracks for Boys.)

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,

## SURVEYING SHIPS.

X PLANET . . . . . Bremen, 2.8.05

L., 160.7 ft. B., 32.2 ft. D., 9.2 ft. Disp., 640 tons.

I.H.P. 345=10 kts. Coal cap., 80 tons.

Armament: 3-1 pr. Compt. 81.

(Möwe, sister ship, sunk 1914.)

X HYANE . Wilhelmshaven, 27.6.78. 1 funnel, bargue-rigged

L., 138 ft. B., 25.6 ft. D., 10.5 ft. Disp., 487 tons.

I.H.P. 335=8 kts. Coal cap., 108 tons.

Armament: 1-3.4 in. (16 pr.); 1-4 pr.; 2-1 pr. Compt. 85.

## FLEET COLLIERIES.

X FRIEDRICH DER GROSSE . Kiel, '74 SATURN . Stettin, '73

L., 307 ft. B., 53.5 ft. D., 25.2 ft. Disp., 6770 tons.

I.H.P. 5325=14 kts. Coal cap., 4920 tons (full load).

(Formerly Battleships.)

## IMPERIAL YACHT.

X HOHENZOLLERN . . . . . Stettin, 27.6.92

L., 380.5 ft. B., 45.9 ft. D. (max.), 19.4 ft. Disp., 4213 tons.

I.H.P. 9370=21.5 kts. Coal cap., 500 tons. Boilers, Schultz (1908).

Armament: 8-4 pr. (or, in war-time, 3-4.1 in.; 12-4 pr.; 8 M.).  
Compt. 323.

(A new Yacht is building.)

## STEAM YACHTS.

X Elderbeck, 24 tons.

Hulda, 14 tons.

Schneewittchen, 71 tons.

Radaune, 24 tons.

## SAILING YACHTS.

X Asta.

Hertha, 22 tons.

Orion, 168 tons.

Thalatta.

Ersatz Wille (bldg.).

## AUXILIARY CRUISERS.

(Subventioned for use when required.)

Ships.	Built.	Length.	Beam.	Draught.	Gross Tonnage.	I.H.P.	Sea-speed.
<b>T</b>							
North German Lloyd: <sup>1</sup>							
Kaiser Wilhelm II. <sup>2</sup>	'03	ft. in. 706 6	ft. in. 72 0	ft. in. 29 0	tons. 20,000	39,000	kts. 23.5
Kronprinz Wilhelm <sup>2</sup>	'01	663 0	66 0	29 0	15,000	37,000	23.4
Kronprinzessin Cecilie <sup>3</sup>	'07	706 4	72 0	30 0	19,400	45,000	23.5

<sup>1</sup> The armament stored for each of these ships consists of 8-5.9 in. B.; 4-4.7 in. B.; 2-3.4 in. Q.; 2-6 pr. Q.; and 14 machine guns. For each vessel there are also 2-20-ft. torpedo boats and 16 torpedoes.

<sup>2</sup> 2 pole masts. 4 funnels fore and aft. 4 sets 4 expans. engines.

<sup>3</sup> 3 masts. 4 funnels.

## MISCELLANEOUS.

X Kraft. Tug and pumping steamer. Disp., 630 tons. I.H.P. 1190 = 12 kts.

X 7 Steam Tank Vessels.

X Mine Sweepers. *Ex* torpedo boats S.25, S.27, S.28, S.29, S.30, S.31, S.35, S.36. Disp., 85-88 tons. I.H.P. 1000 = 19 to 22 kts.

## TARGET SHIPS.

Z Hummel, *ex* gunboat. Jagd, *ex* prot. cruiser. Bayern, ironclad. Vorwaerts, *ex* river gunboat.

## HULKS.

Z URANUS (*ex* Kaiser) . . . . Poplar, '74 (*ex* battleship)

JUPITER (*ex* Deutschland) . . Poplar, '74 ,,

L., 280 ft. B., 62.8 ft. D., 24.4 ft. Disp., 7676 tons.

(Uranus, Receiving Ship for the Reserve; Jupiter, Target Ship.)

Lieutenant General VR Raghavan,

PYSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## GUARD BOATS.

- X Castor, Pollux, Sirius, Vega. Disp., 52 tons. Speed, 15 kts.  
Armament: 1 Q. Helga, Disp., 85 tons.
- X Jade, Wilhelmshaven. Screw pilot vessels.

## HARBOUR SERVICE.

- X **LORELEY** (ex Mohican) . . . . Glasgow, '85  
Late steam yacht. Steel. 1 funnel. Barquentine-rigged.  
L., 207 ft. B., 27 ft. D., 16 ft. Disp., 537 tons.  
I.H.P. 900=12 kts.  
Armament: 3-3 pr. Q.; 1 M.  
(Purchased in 1896 to serve as stationary vessel for Constantinople.)
- Y Eider. Screw transport. Disp., 402 tons. I.H.P. 255.
- X Norder. Tug and pumping steamer. Disp., 566 tons. I.H.P. 1100. Built in 1882.
- X Wangeroog. Pilot schooner.
- X Mellum. Steamer for laying buoys.
- X Heppens. Schooner for laying buoys.
- Z Schilling. Lighter.
- X Usedom. Cutter.
- Z Bombe, Langlütjen, Seestern. Artillery depôt ships.

## TUGS.

Name.	Screw or Paddle.	Disp.	I.H.P.	Name.	Screw or Paddle.	Disp.	I.H.P.
X		tons		X		tons	
Aeolus .	P.	111	270	Marie .	..	39	60
Boreas .	P.	380	900	Mottlau .	P.	145	300
Bussard .	Sc.	34	60	Notus <sup>1</sup> .	P.	303	500
Caurus .	P.	327	500	Reiher .	..	100	200
Elisvogel .	Sc.	34	60	Rival .	P.	129	250
Fleiss .	Sc.	97	175	Stark .	..	183	257
Flink .	..	99	164	Sturm .	..	359	556
Föhn .	Sc.	97	234	Weichsel .	..	359	..
Hermann .	..	59	60	Weih .	Sc.	34	60
				Zephir .	P.	129	250

<sup>1</sup> Carries 1-4.7 in. B.; 2-3 in. B.

## THE BRITISH EMPIRE: GREAT BRITAIN.

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No attempt has been made to include the very numerous auxiliary vessels which have been added temporarily.

### BATTLESHIPS.

A\*

— ships

To be laid down 1915. \* Estimates, 1915.

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Lieutenant General VR Raghavan.

CMVM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

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<b>ROYAL SOVEREIGN</b>	Portsmouth.	C.—	L.	1915.	B.	15.1.14.	E.	1913
<b>ROYAL OAK</b>	Devonport.	„	—	„	19.11.14.	„	15.1.14.	„ „
<b>RESOLUTION</b>	Jarrow.	„	—	„	—	„	29.11.13.	„ „
<b>RAMILLIES</b>	Dalmuir.	„	—	„	—	„	12.11.13.	„ „
<b>REVENGE</b>	Barrow.	„	—	„	—	„	22.12.13.	„ „
<b>RENOWN</b>	Fairfield.	„	—	„	—	„	1914.	„ 1914
<b>REPULSE</b>	Jarrow.	„	—	„	—	„	„ „	„ „
<b>RESISTANCE</b>	Devonport.	„	—	„	—	„	—	„ „

Length, o.a. 600 ft.

Disp. (about) 24,500 tons.

I.H.P. 44,000=22.5 kts. Oil cap., tons.

Engines: Turbines. *Royal Sovereign* by Parsons Co.; *Royal Oak* by Hawthorn, Leslie, & Co.; others by builders

Trials:

Armour:

Armament: 8-15 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 3 over No. 4; 16-6 in., 12-3 in. (14 pr.).

Compt.



## A\*

<b>QUEEN ELIZABETH</b>	Portsmouth.	C.1915.	L. 16.10.13.	B. 21.10.12.	E. 1912
<b>WARSPITE</b>	Devonport.	„ 1915.	„ 26.11.13.	„ 31.10.12.	„
<b>VALIANT</b>	Fairfield.	„ — „	„ 1914.	„ 31.1.13.	„
<b>BARHAM</b>	Clydebank.	„ — „	„ 1914.	„ 24.2.13.	„
<b>MALAYA</b>	Elswick.	„ — „	„ —	„ 7.13.	—
—	Portsmouth.	„ — „	„ —	„ —	„ 1914

Length: p.p. 625 ft. ; o.a. 650 ft. Beam, 92 ft. Draught (mean), 27.5 ft. Disp., 27,500 tons.

I.H.P. 58,000=25 kts. Oil cap., 4000 tons.

Engines: Turbines. *Q. Elizabeth* and *Malaya* by Wallsend Co.; *Warspite* by Hawthorn, Leslie, & Co.; *Valiant* and *Barham* by builders.

## Trials:

Armour: Krupp. Belt nearly complete, 13.5 in. amidships, tapering to 4 in. at ends; lower deck side, 10 in. amidships, tapering to 4 in. at ends; main deck side amidships, 8 in.; turrets and barbettes, 13.5 in.; C.T., 13.5 in., deck, 2.7 in.

Armament: 8—15 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 3 over No. 4; 16—6 in. (50 cal.); 12—3 in. (14 pr.); 5 M. Torpedo tubes, 5—21 in. submerged, broadside and stern.

Compt. 750.

(The *Malaya* is to be paid for by the Federated Malay States.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



A\*

**CANADA** (ex *Almirante Latorre*) . Elswick, 27.11.13. Ld. dn., 15.12.12

Length, o.a., 625 ft. Beam, 93 ft. Draught (mean), 28 ft.  
Disp., 28,000 tons.

I.H.P. 37,000=22 k<sup>ts</sup>. Coal cap., 1000/3500 tons. Oil, 450 tons.

Engines: Turbine, by John Brown & Co.

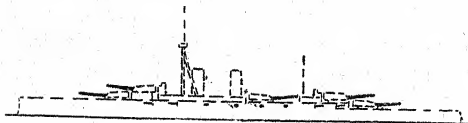
Armour: Krupp. Belt, nearly complete, rising to main deck, 11 in. amidships tapering to 6 in. at ends; main deck side amidships, 8 in.; battery, 7 in.; turrets and barbettes, 11 in.; C.T., in.

Armament: 10-14 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1 and No. 4 over No. 5; 6-6 in. (50 cal.) in upper deck and superstructure batteries; 4-3 in. (14 pr.) Torpedo tubes, 4-21 in. submerged.

Compt. 1000.

(Laid down for Chili and taken over, 1914.)

(See also p. 36.)



A\*

**ERIN** (ex *Reshadieh*) . . . . Barrow, 3.9.13. Laid down, 6.2.11

L., p.p. 525 ft; o.a. 540 ft. B., 91 ft. D. (mean), 27.5 ft.  
Disp., 23,000 tons.

I.H.P. 31,000=21 kts. Coal cap., 900/2100 tons. Oil, 640 tons.

Engines: Parsons turbines. Boilers, Babcock & Wilcox.

Armour: Krupp. Belt almost complete, 12 in. amidships, tapering to 6 in. at ends; lower deck side, 9 in. amidships, tapering to 6 in. forward; main deck side amidships, 8 in.; upper deck battery, 5 in.; turrets and barbettes, 12 in.; C.T.'s (f. and a.), 12 in.; deck, sloping, 3 in.

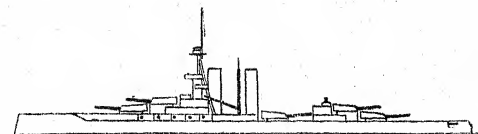
Armament: 10—13.5 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 4 over No. 5; 16—6 in. (50 cal.) in battery; 4—3 in. (14 pr.); 8 M. Torpedo tubes, 5—21 in. submerged, broadside and stern.

Compt. 900.

(Laid down for Turkey and taken over, 1914.)

General VR Raghavan,  
PYSM, UYSM, AVSM (Retd)

General ML Tuli.



A\*

**IRON DUKE.** . . Portsmouth. C. 10.3.14. L. 12.10.12. B. 15.1.12. E. 1911  
**MARLBOROUGH** Devonport. „ —.4.14. „ 24.10.12. „ 25.1.12. „  
**EMPEROR OF INDIA** (ex *Delhi*) Barrow. „ 1914. „ 27.11.13. „ 31.5.12. „  
**BENBOW.** . . Dalmuir. „ 1914. „ 12.11.13. „ 30.5.12. „

L., p.p. 575 ft. ; o.a. 620 ft. B., 89.5 ft. D. (mean), 27.5 ft.  
 Disp., 25,000 tons.

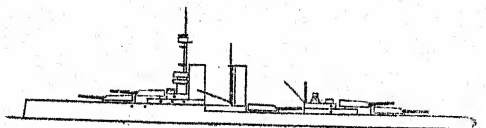
I.H.P. 33,000=22 kts. Coal cap., 1000/3000 tons. Oil, 1000 tons.

Engines: Parsons turbines. *Iron Duke* by Laird ; *Marlborough* by Hawthorn, Leslie, & Co. ; others by builders.

Armour: Krupp. Belt, nearly complete, 13.5 in. amidships, tapering to 4 in. at ends ; lower deck side, 10 in. amidships, tapering to 4 in. at ends ; main deck side amidships, 8 in. ; turrets and barbettes, 12 in. ; battery and casemates, 8 in. ; C.T., 12 in. ; deck, 2.7 in.

Armament: 10—13.5 in. (45 cal. V.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 4 over No. 5 ; 16—6 in. (50 cal.), 10 in battery forward, 2 in casemates aft ; 6—3 pr. Torpedo tubes, 5—21 in., submerged, broadside and stern.

Compt. . . .



## A\*

<b>AUDACIOUS</b> . .	Birkenhead. C.	14.10.13.	L. 14.9.12.	B. 23.3.11.	E. 1910
<b>AJAX</b> . . . .	Greenock.	31.10.13.	21.3.12.	27.2.11.	
<b>CENTURION</b> . .	Devonport.	14.5.13.	18.11.11.	16.1.11.	
<b>KING GEORGE V.</b>	Portsmouth.	16.11.12.	9.10.11.	16.1.11.	

L., p.p. 555 ft. ; o.a. 596 ft. B., 89 ft. ; D. (mean), 27.5 ft.  
Disp., 24,000 tons.

I.H.P. 31,000=21 kts. Coal cap., 900/2700 tons. Oil, 1000 tons.

Engines: Parsons turbines (4 shafts). *King George V.* by Parsons Co. ; *Centurion* by Hawthorn, Leslie, & Co. ; others by builders. Boilers: Babcock & Wilcox.

Trials: *Audacious*, I.H.P. =22.4 kts. ; *Ajax*, I.H.P. 28,000=21.0 kts. ; *Centurion*, I.H.P. =21.9 kts. ; *King George V.*, I.H.P. 28,005=22.1 kts.

Armour: Krupp. Belt, nearly complete, 12 in. amidships, tapering to 4 in. at ends ; lower deck side, 9 in. amidships, tapering to 4 in. at ends ; main deck, side amidships, 8 in. ; turrets and barbettes, 11 in. ; casemates, 4 in. ; C.T., 12 in. ; deck, sloping, 2.7 in.

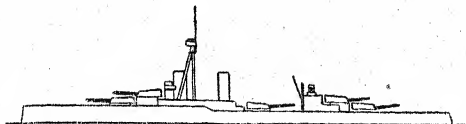
Armament: 10-13.5 in. (45 cal.) in pairs in turrets, all on centre-line, No. 2 firing over No. 1, and No. 4 over No. 5 ; 16-4 in. (50 cal.) in casemates in superstructure, twelve forward and four aft. Torpedo tubes, 5-21 in. submerged, stern and broadside.

Compt. 900.

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,



## A\*

<b>CONQUEROR.</b>	Dalmuir.	C. 23.11.12.	L. 1.5.11.	B. 11.4.10.	E. 1909
<b>THUNDERER.</b>	Blackwall.	„ 15.6.12.	„ 1.2.11.	„ 13.4.10.	„
<b>MONARCH</b>	Elswick.	„ 16.4.12.	„ 30.3.11.	„ 1.4.10.	„
<b>ORION</b>	Portsmouth.	„ 2.1.12.	„ 20.8.10.	„ 29.11.09.	„

L., p.p. 545 ft.; o.a 584 ft. B., 88.5 ft. D. (mean), 27.5 ft.  
Disp., 22,500 tons.

I.H.P. 27,000=21 kts. Coal cap., 1000/2700 tons. Oil, 1000 tons.

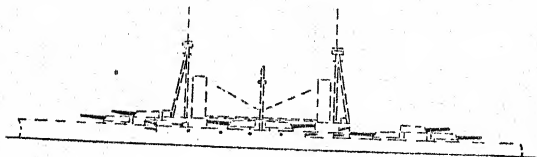
Engines: Parsons turbines (4 shafts). *Orion* by Wallsend Co.;  
*Monarch* by Hawthorn, Leslie, & Co.; others by builders.  
Boilers: *Orion*, Yarrow; others, Babcock & Wilcox.

Trials: *Orion*, I.H.P. 29,108=22 kts.; *Monarch*, I.H.P. 28,555  
=21.8 kts.; *Thunderer*, I.H.P. 27,426=20.8 kts.; *Con-*  
*queror*, I.H.P. 28,400=23.1 kts.

Armour: Krupp. Belt nearly complete, 12 in. for 400 ft. amid-  
ships, tapering to 4 in. at ends; lower deck side, 9 in.  
amidships, tapering to 4 in. at ends; main deck, side amid-  
ships, 8 in.; turrets and barbettes, 11 in.; C.T., 12 in.; deck,  
sloping, 2.7 in.

Armament: 10-13.5 in. (45 cal.) in pairs in turrets, all on centre  
line, No. 2 firing over No. 1, and No. 4 over No. 5; 16-4 in.  
(50 cal.) in superstructure. Torpedo tubes, 3-21 in.  
submerged, stern and broadside.

Compt. 900.

**A**

**AGINCOURT** (ex *Birinji Osman* ex *Rio de Janeiro*). Elswick, 22.1.13

Length, p.p. 632 ft. Beam, 90 ft. Draught (mean), 26 ft. Disp., 27,500 tons.

I.H.P. 45,000=22 kts. Coal cap., 1500/3000 tons.

Engines: Parsons turbines (4 shafts) by Vickers. Boilers, Babcock & Wilcox.

Armour: Krupp. Belt and lower deck side, 9 in. amidships, 6 in. forward, 4 in. aft; main deck side, 9 in. amidships, 4 in. forward; battery, 6 in.; turrets and barbettes, 9 in.; C.T., 12 in.

Armament: 14—12 in. (50 cal.) in pairs in turrets on centre line; No. 2 firing over No. 1 and No. 6 over No. 7; 20—6 in. (50 cal.), 14 in battery, 6 above battery; 8—3 in. (14 pr.) in superstructure; 4 M. Torpedo tubes, 3—21 in. submerged, broadside and stern.

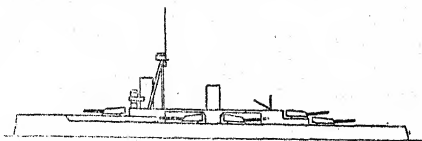
Compt. 1100.

(Laid down for Brazil, 1911; bought by Turkey, 1913; taken over, 1914.)

Lieutenant General VR Raghavan.

PYSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



## A

**HERCULES** . . Jarrow. C. 4.7.11. L. 10.5.10. B. 30.7.09. E. 1909

**COLOSSUS** . . Greenock. „ 8.8.11. „ 9.4.10. „ 8.7.09. „

L., p.p. 510 ft. ; w.l. 540 ft. ; o.a. 546 ft. B., 86 ft. D. (mean), 27 ft. Disp., 20,000 tons.

I.H.P. 25,000=21 kts. Coal cap., 900/2700 tons. Oil, 450 tons.

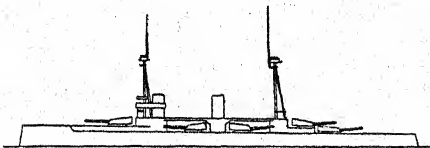
Engines: Parsons turbines (4 shafts) by builders. Boilers, Babcock & Wilcox.

Trials: *Hercules*, I.H.P. 26,599=21.5 kts. ; *Colossus*, I.H.P. 29,817=21.5 kts.

Armour: Krupp. Complete belt, 11 in. amidships, 4 in. to 2.5 in. at ends ; lower deck side, 8 in. amidships, 4 in. to 2.5 in. at ends ; turrets and barbettes, 11 in. to 8 in. ; C.T., 12 in. ; deck, sloping, 2.7 in.

Armament: 10-12 in. (50 cal.) in pairs in turrets, one forward, two diagonally amidships, two aft, No. 4 firing over No. 5 ; 16-4 in. (50 cal.) in superstructure. Torpedo tubes, 3-21 in. submerged, stern and broadside.

Compt. 900.



## A

**NEPTUNE** . Portsmouth. C. 11.1.11. L. 30.9.09. B. 19.1.09. E. 1908

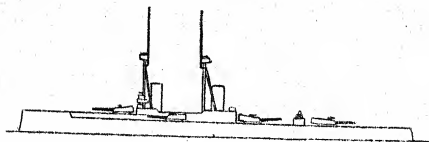
B., 85 ft. Disp., 19,900 tons.

Engines: by J. Brown & Co. Boilers, Yarrow.

Trials: I.H.P. 27,721=21.8 kts.

All other details as for *Hercules* class.





## A

<b>ST. VINCENT</b>	Portsmouth. C. 3.5.10. L. 19.9.08. B. 30.12.07. F. 1907
<b>COLLINGWOOD</b>	Devonport. „ 19.4.10. „ 7.11.08. „ 3.2.08. „
<b>VANGUARD</b>	Barrow. „ 1.3.10. „ 22.2.09. „ 2.4.08. „

L., p.p. 500 ft. ; w.l. 530 ft. ; o.a. 536 ft. B., 84 ft. D. (mean), 27 ft. Disp., 19,250 tons.

I.H.P. 24,500=21 kts. Coal cap., 900/2700 tons. Oil fuel, tons.

Engines: Parsons turbines (4 shafts). *St. Vincent* by Scott ; *Collingwood* by Hawthorn, Leslie, & Co. ; *Vanguard* by builders. Boilers: *St. Vincent* and *Vanguard*, Babcock & Wilcox ; *Collingwood*, Yarrow.

Trials: *St. Vincent*, I.H.P. 25,900=21.9 kts. ; *Collingwood*, I.H.P. 26,319=21.5 kts. ; *Vanguard*, I.H.P. 25,800=22.1 kts.

Armour: Krupp. Complete belt about 16 ft. wide (narrower aft), 9.7 in. amidships, tapering to 6 in. forward and 4 in. aft ; turrets and barbettes, 12 in. to 8 in. ; forward C.T., 12 in. ; after C.T., 8 in. ; deck, sloping, 2.7 in.

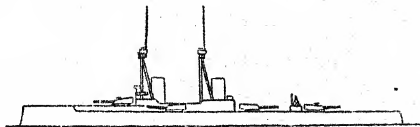
Armament: 10—12 in. (50 cal.) in pairs in turrets, one forward, one on each beam, two on centre line aft ; 20—4 in. (50 cal.), two on each turret and ten in superstructure ; 5 M. Torpedo tubes, 3—18 in. submerged, broadside and stem.

Compt. 870.

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



A

<b>SUPERB</b>	. . . Elswick.	C. 9.6.09.	L. 7.11.07.	B. 6.2.07.	E. 1906
<b>TEMERAIRE</b>	. Devonport.	„ 15.5.09.	„ 24.8.07.	„ 1.1.07.	„
<b>BELLEROPHON</b>	. Portsmouth.	„ 20.2.09.	„ 27.7.07.	„ 3.12.06.	„

L., p.p. 490 ft. ; w.l. 520 ft. ; o.a. 526 ft. B., 82 ft. D. (mean), 27 ft. ; (max.), 29 ft. Disp., 18,600 tons.

I.H.P. 23,000=20·7 kts. Coal cap., 900/2700 tons. Oil, tons.

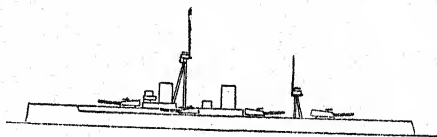
Engines : Parsons turbines (4 shafts). *Superb* by Wallsend Co. ; *Temeraire* by Hawthorn, Leslie, & Co. ; *Bellerophon* by Fairfield Co. Boilers : *Temeraire*, Yarrow ; others, Babcock & Wilcox.

Trials : *Superb*, I.H.P. 25,400=21·6 kts. : *Temeraire*, I.H.P. 24,600=22 kts. ; *Bellerophon*, I.H.P. 24,330=21·8 kts.

Armour : Krupp. Complete belt about 16 ft. wide (narrower aft), 11 in. amidships, tapering to 6 in. forward and 4 in. aft ; turrets, 8 in. ; barbettes, 12 in. ; forward C.T., 12 in. ; after C.T., 8 in. ; deck, sloping, 2·7 in.

Armament : 10—12 in. (45 cal.) in pairs in turrets, one forward, one on each beam, two aft on centre line ; 16—4 in. (50 cal.), two on each turret (except No. 4), eight in superstructure ; 5 M. Torpedo tubes, 5—18 in. submerged, broadside and stern.

Compt. 850.

**A**

**DREADNOUGHT**. Portsmouth. C. 1906. L. 10.2.06. B. 2.10.05. E. 1905

L., p.p. 490 ft.; w.l. 520 ft.; o.a. 526 ft. B. 82 ft. (mean—as designed), 26.5 ft. (max.), 30 ft. Disp. (designed), 17,900 tons.

(Ship displaces a good deal more than designed amount).

I.H.P. 23,000=20.7 kts. Coal cap., 900/2700 tons. Oil, 450 tons.

Engines: Parsons turbines by Vickers (4 shafts). Boilers, Babcock & Wilcox.

Trials: I.H.P. 24,712=21.2 kts.

Armour: Krupp. Complete belt about 16 ft. wide (narrower aft), 11 in. amidships, tapering to 6 in. forward and 4 in. aft; turrets, 8 in.; barbettes, 12 in.; forward C.T., 12 in.; aft C.T., 8 in.; deck, sloping, 2.7 in.

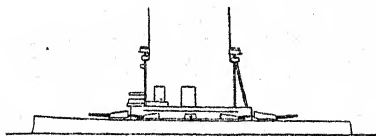
Armament: 10—12 in. (45 cal.) in pairs in turrets, one forward, one on each beam, two aft on centre line; 24—3 in. (12 pr.), on turrets and in superstructure; 5 M. Torpedo tubes, 5—18 in. submerged, broadside and stern.

Compt. 800.

Lieutenant General VR Raghavan.

EVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**B**

**LORD NELSON** . . . . Jarrow, 4.9.06. Ld. dn. 18.5.05. Ests. 1904

**AGAMEMNON** . . . . Dalnair, 23.6.06. „ 15.5.05. „ „

L., p.p. 410 ft.; w.l. 435 ft.; o.a. 445 ft. B., 79.5 ft. D.  
(mean), 27 ft. Disp., 16,500 tons.

I.H.P. 16,750=18.5 kts. Coal cap., 900/2500 tons. Oil fuel,  
400 tons.

Engines: 2 sets 3 expans. *Lord Nelson* by builders; *Agamemnon*  
by Hawthorn, Leslie, & Co. Boilers: *Lord Nelson*, Babcock  
& Wilcox; *Agamemnon*, Yarrow.

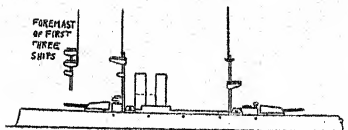
Trials: *Lord Nelson*, I.H.P. 17,445=18.9 kts.; *Agamemnon*,  
I.H.P. 17,285=18.7 kts.

Armour: Krupp. Complete belt, 12 in. amidships, tapering to  
6 in. forward and 4 in. aft; lower deck side, 8 in. amid-  
ships, tapering to 4 in. forward; main deck side amidships,  
8 in.; bulkheads, 8 in.; main turrets, 8 in.; barbettes, 12  
in.; secondary turrets, 7 in.; C.T., 12 in.; deck, sloping,  
2 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 10-  
9.2 in. (50 cal.) in six turrets on upper deck; 13-3 in. (12  
pr.); 22-3 pr.; 2 M. Torpedo tubes, 5 submerged, broad-  
side and stern.

Compt. 865.

B



<b>AFRICA</b>	Chatham,	20.5.05.	Ld. dn.	27.1.04.	Ests. 1903
<b>BRITANNIA</b>	Portsmouth,	10.12.04.	"	4.2.04.	" "
<b>HIBERNIA</b>	Devonport,	17.6.05.	"	6.1.04.	" "
<b>ZEALANDIA</b> ex } New Zealand }	Portsmouth,	4.2.04.	"	9.2.03.	" 1902
<b>HINDUSTAN</b>	Clydebank,	19.12.03.	"	25.10.02.	" "
<b>KING</b>	Devonport,	23.7.03.	"	8.3.02.	" 1901
<b>EDWARD VII.</b> }	Barrow,	25.8.03.	"	23.5.02.	" "
<b>DOMINION</b>	Fairfield,	13.5.03.	"	17.6.02.	" "
<b>COMMONWEALTH.</b>					" "

L., p.p. 425 ft.; w.l. 439 ft.; o.a. 453.7 ft. B., 78 ft. D. (mean), 26.7 ft. Disp., 16,350 tons.

I.H.P. 18,000=18.5 kts. Coal cap., 950/2000 tons. Oil, 400 tons. (*Zealandia* has Coal cap., 950/2200 tons. Oil, nil.)

Engines: 2 sets 3 expans. *Africa* by J. Brown & Co.; *Britannia* and *Zealandia* by Humphrys & Tennant; *Hibernia* and *King Edward VII.* by Harland & Wolff; others by builders. Boilers: *Zealandia*, Niclausse and cylindrical; others, Babcock & Wilcox and cylindrical.

Trials: *Africa*, I.H.P. 18,698=18.9 kts.; *Hindustan*, I.H.P. 18,521=19.0 kts.; *Britannia*, I.H.P. 18,725=18.7 kts.; *King Edward VII.*, I.H.P. 18,138=19 kts.; *Hibernia*, I.H.P. 18,112=18.1 kts.; *Dominion*, I.H.P. 18,438=19.3 kts.; *Zealandia*, I.H.P. 18,440=18.6 kts.; *Commonwealth*, I.H.P. 18,538=19 kts.

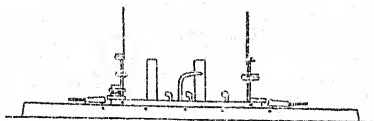
Armour: Krupp. Belt from bow to after turret, 8 ft. wide, 9 in. amidships, tapering to 2 in. at bow; 2 in. belt aft; after B.H., 8 in. to 10 in.; lr. dk. side, 8 in. amidships, tapering to 2 in. at bow; battery, 7 in.; main turrets, 8 in.; barbettes, 12 in.; secondary turrets, 7 in.; barbettes, 4 in.; C.T., 12 in.; S.T. aft, 5 in.; dk. amidships, 2 in. to 1 in.; forward, 1 in.; aft, 2.5 in.; main dk. forward, 1.5 in. to 2 in.; upper dk. over battery, 1 in.

Armament: 4—12 in. (40 cal.) in pairs in turrets f. and a.; 4—9.2 in. singly in turrets; 10—6 in. (45 cal.) in battery; 14—3 in. (12 pr.); 14—3 pr.; 2 M. Torpedo tubes, 4—18 in. submerged broadside. Compt. 777.

Navy Lieutenant General VR Raghavan.

FVSM, UYSM, AVSM (Retd)

Navy Lieutenant General ML Tuli.



## C

**SWIFTSURE** (*ex* Chilian *Constitucion*)

Elswick, 13.1.03. Id. dn. 13.3.02. Bought, Dec. 1903

**TRIUMPH** (*ex* Chilian *Libertad*)

Barrow, 15.1.03. " 3.02. " " "

L., p.p. 436 ft. ; w.l. 458 ft. ; o.a. 470 ft. B., 71 ft. D. (mean), 24.6 ft. Disp., 11,800 tons.

I.H.P. 14,000=20 kts. Coal cap., 800/2000 tons.

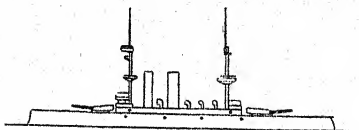
Engines: 2 sets 3 expans. *Swiftsure* by Humphrys & Tennant ; *Triumph* by builders. Boilers, Yarrow.

Trials: *Swiftsure*, I.H.P. 14,018=20 kts. ; *Triumph*, I.H.P. 14,090=20.1 kts.

Armour: Krupp. Belt, from bow almost to stern, 7 in. amidships, 3 in. at ends. ; bulkheads, 10 in. ; bulkhead at after end of belt, 3 in. ; lower deckside amidships, 7 in. ; battery, 7 in. ; battery bulkheads, 6 in. ; casemates, 7 in., with 3-in. backs ; turrets, 8 in. ; barbettes, 10 in. ; C.T., 11 in. ; deck, sloping, 1.5 in. amidships, 3 in. at ends.

Armament: 4-10 in. (45 cal.) in pairs in turrets f. and a. ; 14-7.5 in. (50 cal.) ; ten in battery, four in upper deck casemates ; 14-3 in. (14 pr.) ; 4-6 pr. ; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 700.



<b>C</b>					
<b>QUEEN</b>	Devonport,	8.3.02.	Ld. dn. 12.3.01.	Ests. 1900	
<b>PRINCE OF WALES</b>	Chatham,	25.3.02.	" 20.3.01.	" "	
<b>LONDON</b>	Portsmouth,	21.9.99.	" 8.12.98.	" "	1898
<b>VENERABLE</b>	Chatham,	2.11.99.	" 2.1.99.	" "	"

L., p.p. 400 ft.; w.l. 411 ft.; o.a. 430 ft. B., 75 ft. D. (mean), 26.7 ft.; (max. normal), 27.7 ft. Disp., 15,000 tons. I.H.P. 15,000=18 kts. Coal cap., 900/2100 tons.

Engines: 2 sets 3 expans. *Queen* by Harland & Wolff; *Prince of Wales* by Greenock Foundry; *London* by Earle; *Venerable* by Mandslay. Boilers: *Queen*, Babcock & Wilcox; others, Belleville.

Trials: *Queen*, I.H.P. 15,556=18.3 kts.; *Prince of Wales*, I.H.P. 15,364=18.4 kts.; *London*, I.H.P. 15,264=18.1 kts.; *Venerable*, I.H.P., 15,345=18.3 kts.

Armour: Krupp. Belt from bow to after turret, 15 ft. wide, 9 in. amidships, tapering to 2 in. at bow; side plating on w.l., aft, 1.5 in.; after bulkhead, 12 in.; turrets, 8 in. to 10 in.; barbettes, 12 in.; casemates, 6 in.; con. tower, 12 in.; deck, 2 in. on slopes, 1 in. on flat amidships and forward, 2.5 in. aft; main deck, amidships, 2 in., forward, 1 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 12-6 in. (45 cal.) in casemates; 16-3 in. (12 pr.); 6-3 pr.; 2 M. Torpedo tubes, 4-18 in. submerged, broadside.

Compt. 750.

(*Bulwark*, sister ship, sunk 1914.)

**C IMPLACABLE** . . Devonport, 11.3.99. Ld. dn. 13.7.98. Ests. 1897

Engines: By Laird.

Trials: I.H.P. 15,244=18.2 kts.

Armour: Belt for 216 ft., 9 in.; belt forward, 2 in.; forward bulkhead, 12 in.; prot. deck, amidships, 3 in. on slopes, 2 in. on flat; forward, 2 in.; aft, 2.5 in.; main deck, 1 in.

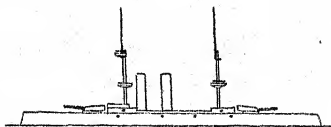
Otherwise same as *London* class.

(*Formidable* and *Irresistible*, sister ships, sunk 1915.)

Tenant General VR Raghavan

PVSM, UYSM, AVSM (Retd)

Tenant General ML Tuli



## C

<b>DUNCAN</b>	Blackwall,	21.3.01.	Ld. dn. 10.7.99.	Suppl. Ests. 1898
<b>CORNWALLIS</b>	Blackwall,	13.7.01.	„ 19.7.99.	„ „
<b>EXMOUTH</b>	Birkenhead,	31.8.01.	„ 10.8.99.	„ „
<b>RUSSELL</b>	Jarrow,	19.2.01.	„ 11.3.99.	„ „
<b>ALBEMARLE</b>	Chatham,	5.3.01.	„ 8.1.00.	Estimates, 1899

L., p.p. 405 ft. ; w.l. 413 ft. ; o.a. 429 ft. B., 75.5 ft. D. (mean), 26.5 ; (max. at full load), 27.2 ft. Disp., 14,000 tons.

I.H.P. 18,000=19 kts. Coal cap. 900/2000 tons.

Engines: 2 sets 3 expans. *Albemarle* by Thames Ironworks, others by builders. Boilers, Belleville.

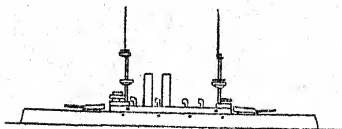
Trials: *Duncan*, I.H.P. 18,232=18.9 kts. ; *Cornwallis*, I.H.P. 18,238=18.9 kts. ; *Exmouth*, I.H.P. 18,346=19 kts. ; *Russell*, I.H.P. 18,229=19.3 ; *Albemarle*, I.H.P. 18,296=18.6 kts. (in bad weather).

Armour: Krupp. Belt from bow to after turret, 14 ft. wide, 7 in. amidships, tapering to 2 in. at bow ; side plating on w.l., aft. 1.5 in. ; after bulkhead, 7 in. to 10 in. ; turrets, 6 in. ; barbettes, 10 in. to 11 in. ; casemates, 6 in. ; C.T., 12 in. ; deck, sloping, 1 in. amidships ; forward, 1 in. to 2 in. ; aft, 2 in. ; main deck amidships, 2 in. ; forward, 1 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a. ; 12-6 in. (45 cal.) in casemates ; 12-3 in. (12 pr.) ; 6-3 pr. ; 2 M. Torpedo tubes, 4-18 in. submerged, broadside.

Compt. 750.





## C

<b>VENGEANCE</b> . . .	Barrow,	25.7.99.	Ld. dn. 23.8.97.	Ests. 1897
<b>ALBION</b> . . . .	Blackwall,	21.6.98.	" 3.12.96.	" 1896
<b>CANOPUS</b> . . .	Portsmouth,	13.10.97.	" 4.1.97.	" "
<b>GLORY</b> . . . .	Birkenhead,	11.3.99.	" 1.12.96.	" "
<b>GOLIATH</b> . . .	Chatham,	23.3.98.	" 4.1.97.	" "

L., p.p. 390 ft.; w.l. 400 ft.; o.a. 418 ft. E., 74 ft. D. (mean), 26 ft. Disp., 12,950 tons.

I.H.P. 13,500=18.2 kts. Coal cap., 1000/2300 tons.

Engines: 2 sets 3 expans. *Albion* by Maudslay; *Canopus* by Greenock Foundry; *Goliath* by Penn; others, by builders. Boilers, Belleville.

Trials: *Vengeance*, I.H.P. 13,852=18.5 kts.; *Albion*, I.H.P. 13,885=17.8 kts.; *Canopus*, I.H.P. 13,763=18.5 kts.; *Glory*, I.H.P. 13,745=18.1 kts.; *Goliath*, I.H.P. 13,918=18.4 kts.

(*Albion's* trials run in bad weather.)

Armour: Harvey-nickel. Belt, 195 ft. long, 14 ft. wide, 6 in.; 2-in. belt forward; bulkheads, 12 in.; turrets, 8 in.; barbettes, 12 in.; casemates, 5 in.; C.T., 12 in.; deck, sloping, 2 in.; main deck, 1 in.

Armament: 4—12 in. (35 cal.) in pairs in turrets f. and a.; 12—6 in. (40 cal.) in casemates; 10—3 in. (12 pr.); 6—3 pr.; 2 M. Torpedo tubes, 4—18 in. submerged, broadside.

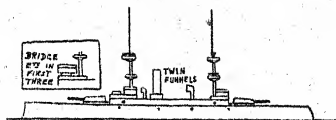
Compt. 750.

(*Ocean*, sister ship, sunk 1915.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.



## C

<b>CÆSAR</b> . . . . .	Portsmouth, 2.9.96.	Ld. dn. 25.3.95.	Ests. 1894
<b>ILLUSTRIOUS</b> . . . . .	Chatham, 17.9.96.	" 11.3.95.	" "
<b>HANNIBAL</b> . . . . .	Pembroke, 28.4.95.	" 4.94.	" "
<b>JUPITER</b> . . . . .	Clydebank, 18.11.95.	" 10.94.	" "
<b>MARS</b> . . . . .	Birkenhead, 30.3.96.	" 6.94.	" "
<b>PRINCE GEORGE</b> . . . . .	Portsmouth, 22.8.95.	" 6.9.94.	" "
<b>VICTORIOUS</b> . . . . .	Chatham, 19.10.95.	" 29.5.94.	" "
<b>MAGNIFICENT</b> . . . . .	Chatham, 19.12.94.	" 18.12.93.	" 1893
<b>MAJESTIC</b> . . . . .	Portsmouth, 31.1.95.	" 4.2.94.	" "

L., p.p. 390 ft.; w.l. 399 ft.; o.a. 413 ft. B., 75 ft. D. (mean), 27.5 ft. Disp., 14,900 tons.

I.H.P. 12,000=17.5 kts. Coal cap., 900/2000 tons.

Engines: 2 sets 3 expans. *Cæsar* by Maudslay; *Illustrious* and *Magnificent* by Penn; *Hannibal* by Harland & Wolff; *Prince George* by Humphrys & Tennant; *Victorious* by Hawthorn, Leslie, & Co.; *Majestic* by Barrow. Boilers, cylindrical.

Trials: *Cæsar*, I.H.P. 12,652=18.7 kts.; *Illustrious*, I.H.P. 12,112=16.5 kts.; *Hannibal*, I.H.P. 12,138=18 kts.; *Jupiter*, I.H.P. 12,475=18.4 kts.; *Mars*, I.H.P. 12,434=17.7 kts.; *Prince George*, I.H.P. 12,253=18.3 kts.; *Victorious*, I.H.P. 12,201=18.7 kts.; *Magnificent*, I.H.P. 12,157=17.6 kts.; *Majestic*, I.H.P. 12,097=17.9 kts. (Bad weather for *Illustrious*.)

Armour: Harvey. Partial belt, 220 ft. long, 16 ft. wide, 9 in.; bulkheads, 12 in.; turrets, 10 in.; barbettes, 14 in.; casemates, 6 in.; C.T., 14 in.; deck, amidships, 4 in. on slopes, 3 in. on flat; at ends, 2.5 in.

Armament: 4—12 in. (35 cal.) in pairs in turrets f. and a.; 12—6 in. (40 cal.) in casemates; 16—3 in. (12 pr.); 12—3 pr.; 2 M. Torpedo tubes, 5—18 in.; four submerged broadside, one above water in stern.

Compt. 757.

**BATTLE-CRUISERS.**

**A\***

**TIGER** . . . Clydebank, C. 1914. L. 15.12.13. B. 20.6.12. E. 1911

Length, p.p. 660 ft., o.a. 700 ft. Beam, 90 ft. Disp. (about)  
30,000 tons.

I.H.P. 87,000=30 kts.

Engines: Brown-Curtis turbines. Boilers, Babcock & Wilcox.

Armour: Krupp. Belt, almost complete, from 7 ft. below water line to upper deck, 9 in. amidships, tapering to 4 in. at ends; turrets and barbettes, 9 in.; C.T., 10 in.; deck (sloping), 3 in. to 1 in.

Armament: 8-13.5 in. (45 cal. V.) in pairs in turrets on centre line, No. 2 firing over No. 1; 12-6 in. (50 cal.) in casemates.

Torpedo tubes, 2-21 in. submerged, broadside.

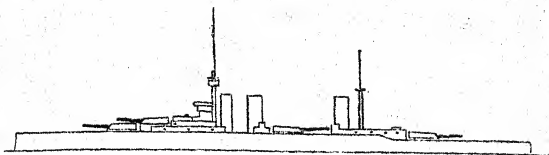
Compt.

Genant General VR Raghavan,

FRSM. UYSM. AVSM (Retd)

Genant General ML Tuli.

# GREAT BRITAIN: BATTLE-CRUISERS



A\*

**QUEEN MARY** . Jarrow. C. 4.9.13. L. 20.3.12. B. 6.3.11. E. 1910  
**PRINCESS ROYAL** Barrow. „ 14.11.12. „ 29.4.11. „ 2.5.10. „ 1909  
**LION** . . . . Devonport. „ 4.6.12. „ 6.8.10. „ 29.11.09. „ „

L., p.p. 660 ft. ; o.a., 700 ft. B., 88.5 ft. ; D. (mean), 28 ft.  
 Disp., *Queen Mary*, 27,000 tons ; others, 26,350 tons.

I.H.P. *Queen Mary*, 75,000 ; others, 70,000 = 28 kts. Coal cap.,  
 1000/3000 tons. Oil, 1000 tons.

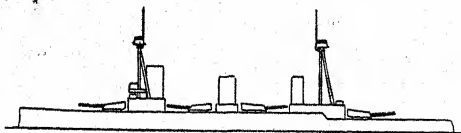
Engines : Parsons turbines (4 shafts) by builders in *Queen Mary*,  
 by Vickers in others. Boilers, Yarrow.

Trials : *Lion*, I.H.P. 75,685 = 28.5 kts. ; *Princess Royal*, I.H.P.  
 76,510 = 28.5 kts. ; *Queen Mary*, I.H.P. = 28.1 kts.

Armour : Krupp. Belt, almost complete, from 7 ft. below water  
 line to upper deck, 9 in. amidships, tapering to 4 in. at  
 ends ; turrets and barbettes, 9 in. ; C.T., 10 in. ; deck,  
 sloping, 3 in. to 1 in.

Armament : 8—13.5 in. (45 cal.) in pairs in turrets, all on centre  
 line, No. 2 firing over No. 1 ; 16—4 in. (50 cal.) in super-  
 structure. Torpedo tubes, 5—21 in. submerged, broadside  
 and stern.

Compt. 950.



## A

**NEW ZEALAND** Govan. C. 23.11.12. L. 1.7.11. B. 21.6.10. E. —  
**INDEFATIGABLE** Devonport. „ 24.2.11. „ 28.10.09. „ 23.2.09. „ 1908

L., p.p. 555 ft. ; w.l. 588 ft. ; o.a. 590 ft. B., 80 ft. D. (mean),  
 26.5 ft. Disp., *New Zealand*, 18,800 tons ; *Indefatigable*,  
 18,750 tons.

I.H.P. *New Zealand*, 44,000 ; *Indefatigable*, 43,000=25 kts. in  
 both. Coal cap., 1000/2500 tons. Oil, 500 tons.

Engines : Parsons turbines (4 shafts). *New Zealand* by builders ;  
*Indefatigable* by J. Brown & Co. Boilers, Babcock &  
 Wilcox.

Trials : *New Zealand*, 46,894=26.4 kts. ; *Indefatigable*, I.H.P.  
 47,135=26.5 kts. (*Indefatigable* has done 29 kts. on  
 service.)

Armour : Krupp. Complete belt about 14 ft. wide, 7 in. amid-  
 ships, tapering to 4 in. at ends ; turrets and barbettes, 7 in. ;  
 C.T., 10 in. ; deck, sloping, 3 in.

Armament : 8—12 in. (45 cal.) in pairs in turrets, one forward,  
 one aft, two diagonally amidships ; 16—4 in. (50 cal.) in super-  
 structure. Torpedo tubes, 2—18 in. submerged, broadside.

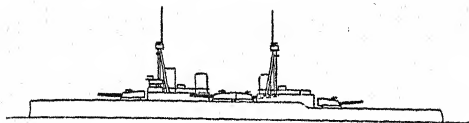
Compt. 900.

(The *New Zealand* was paid for by the Dominion of New Zealand.  
 The Australian ship *Australia* is a sister-ship.)

Lieutenant General VR Raghavan.

PYSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.



## A

<b>INVINCIBLE</b>	Elswick.	C. 20.3.08.	L. 13.4.07.	B 2.4.06.	E. 1905
<b>INFLEXIBLE</b>	Clydebank.	„ 20.10.08.	„ 26.6.07.	„ 5.2.06.	„
<b>INDOMITABLE</b>	Govan.	„ 25.6.08.	„ 16.3.07.	„ 1.3.06.	„

L., p.p. 530 ft.; w.l. 560 ft.; o.a. 562 ft. B., 78.5 ft. D.  
(mean), 26 ft. Disp., 17,250 tons.

I.H.P. 41,000=25 kts. Coal cap., 1000/2500. Oil fuel, 500 tons.

Engines: Parsons turbines (4 shafts). *Invincible* by Humphrys & Tennant; others by builders. Boilers: *Indomitable*, Babcock & Wilcox; others, Yarrow.

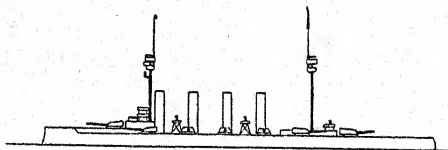
Trials: *Invincible*, I.H.P. 44,800=28 kts.; *Infexible*, I.H.P. 43,300=27.2 kts.; *Indomitable*, I.H.P. 43,700=27.3 kts.  
(All have done over 28 kts. on service.)

Armour: Krupp. Complete belt about 14 ft. wide, 7 in. amidships, tapering to 4 in. forward and aft; turrets, 7 in.; barbettes, 8 in.; forward C.T., 12 in.; after C.T., 8 in.; deck, sloping, 3 in.

Armament: 8-12 in. (45 cal.) in pairs in turrets, one forward, one aft, two diagonally amidships; 16-4 in. (50 cal.) in superstructure; 4 M. Torpedo tubes, 3-18 in. submerged, broadside and stern.

Compt. 731.

## CRUISERS.



## E

**MINOTAUR** . . . Devonport, 6.6.06. Laid down, 2.1.05. Ests. 1904  
**DEFENCE** . . . Pembroke, 24.4.07. " 22.2.05. " "  
**SHANNON** . . . Chatham, 20.9.06. " 2.1.05. " "

L., p.p. 490 ft.; w.l. 520 ft.; o.a. 525 ft. B., 74.5 ft. D.  
 (mean), 26 ft. (*Shannon* has B., 75.5 ft. D., 25 ft.) Disp.,  
 14,600 tons.

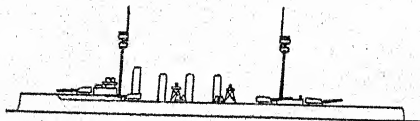
I.H.P. 27,000=23 kts. Coal cap., 1000/2000 tons. Oil fuel,  
 4000 tons.

Engines: 2 sets 3 expans. *Minotaur* by Harland & Wolff;  
*Defence* by Scott; *Shannon* by Humphrys & Tennant.  
 Boilers: *Minotaur*, Babcock & Wilcox; others, Yarrow.

Trials: *Minotaur*, I.H.P. 27,856=23 kts.; *Defence*, I.H.P.  
 27,570=23 kts.; *Shannon*, I.H.P. 28,553=22.4 kts.

Armour: Krupp. Complete belt, 12 ft. wide, 6 in. amidships,  
 4 in. forward, 3 in. aft; turrets, 8 in. to 6 in.; barbettes,  
 7 in.; C.T., 12 in.; deck, sloping, 1 in.

Armament: 4-9.2 in. (50 cal.) in pairs in turrets f. and a.;  
 10-7.5 in. (50 cal.) singly in turrets on beam; 16-3 in.  
 (12 pr.); 5 M. Torpedo tubes, 5-18 in. submerged,  
 broadside and stern. Compt. 755.

*Achilles Class.*

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

<b>E</b> <b>ACHILLES</b>	. Elswick,	17.6.05.	Laid down, 22.2.04.	Ests. 1903
<b>COCHRANE</b>	. Govan,	20.5.05.	" 24.3.04.	" "
<b>NATAL</b>	. Barrow,	20.9.05.	" 6.1.04.	" "
<b>WARRIOR</b>	. Pembroke,	25.11.05.	" 5.11.03.	" "

L., p.p. 480 ft. B., 73.5 ft. D. (mean), 27 ft.; (max.), 27.5 ft.  
Disp., 13,660 tons.

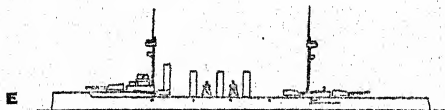
I.H.P. 23,500=22.3 kts. Coal cap., 1000/2000 tons. Oil fuel, 400 tons.

Engines: 2 sets 3 expans. (standardised). *Warrior* by Wallsend Co.; *Achilles* by Hawthorn, Leslie, & Co.; others by builders. Boilers, Yarrow, with 6 cylindrical.

Trials: *Achilles*, I.H.P. 23,968=23.5 kts.; *Cochrane*, I.H.P. 23,654=23.3 kts.; *Natal*, I.H.P. 23,592=23.3 kts.; *Warrior*, I.H.P. 23,641=23.3 kts.

Armour: Krupp. Complete belt about 12 ft. wide, 6 in. amidships, 4 in. forward, 3 in. aft; bulkheads, 6 in.; turrets, 6 in.; barbettes, 7 in.; C.T., 10 in.; deck, sloping, 7 in., 3 in. over steering gear; main deck, 1 in.

Armament: 6-9.2 in. (50 cal.) singly in turrets, three forward, three aft; 4-7.5 in. (50 cal.) singly in turrets amidships, between main turrets; 24-3 pr.; 2 M. Torpedo tubes, 3-18 in. submerged, broadside and stern. Compt. 704.



**DUKE OF EDINBURGH** Pembroke, 14.6.04. Ld. dn. 11.2.03. Ests. 1902-3  
**BLACK PRINCE** . . Blackwall, 8.11.04. " 3.6.03. " "

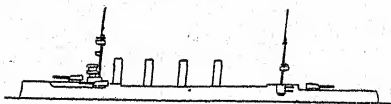
Engines: *Duke of Edinburgh* by Hawthorn, Leslie, & Co.; *Black Prince* by builders. Boilers, Babcock & Wilcox, with 6 cylind.

Trials: *Duke of Edinburgh*, I.H.P. 23,685=22.8 kts.; *Black Prince*, I.H.P. 23,940=23.6 kts.

Armour: Battery, 6 in.; main deck f. and a., 1 in.; upper deck over battery, 1 in.

Armament: 10-6 in. (50 cal.) in battery, instead of 4-7.5 in.  
(All other details as for *Achilles* class.)





## F

<b>DEVONSHIRE</b>	Chatham,	30.4.04.	Ld. dn.	25.3.02.	Estd. 1901
<b>HAMPSHIRE</b>	Elswick,	24.9.03.	"	1.9.02.	" "
<b>ARGYLL</b>	Greenock,	3.3.04.	"	1.9.02.	" "
<b>ROXBURGH</b>	Govan,	19.1.04.	"	13.6.02.	" "
<b>ANTRIM</b>	Clydebank,	7.10.03.	"	27.8.02.	" "
<b>CARNARVON</b>	Dalmuir,	6.10.03.	"	1.10.02.	" "

L., p.p. 450 ft. B., 68.5 ft. D. (mean), 25.2 ft. Disp., 10,850 tons.

I.H.P. 21,000=22.2 kts. Coal cap., 800/1800.

Engines: 2 sets 3 expans. *Devonshire* by Thames Ironworks; *Hampshire* by Hawthorn, Leslie, & Co.; *Carnarvon* by Humphrys & Tennant; others by builders. Boilers: *Devonshire* and *Carnarvon*, Niclausse; *Hampshire* and *Antrim*, Yarrow; *Argyll*, Babcock & Wilcox; *Roxburgh*, Dürr, with 6 cylindrical also in each ship.

Armour: Krupp. Belt for 325 ft. from bow, 10.5 ft. wide, 6 in. amidships, 2 in. forward; after bulkhead, 5 in.; turrets and barbettes, 6 in.; casemates, 6 in.; C.T., 10 in.; deck, sloping, 2 in.

Armament: 4-7.5 in. (45 cal.) singly in turrets f. and a. and one on each beam forward; 6-6 in. (45 cal.) in casemates; 2-3 in. (12 pr.); 22-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

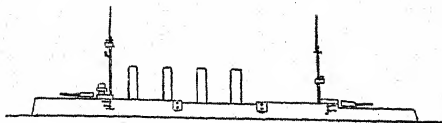
Compt. 655.

(These were the first British ships to be completed for sea by the Contractors.)

Navy Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Reid)

Navy Lieutenant General ML Tuli.



## F

<b>DRAKE</b>	Pembroke, 5.3.01.	Ld. dn. 24.4.99.	Estimates, 1898
<b>KING ALFRED</b>	Barrow, 28.10.01.	" 11.8.99.	" "
<b>LEVIATHAN</b>	Clydebank, 3.7.01.	" 30.11.99.	Sup. Ests. 1898

L., p.p. 500 ft.; o.a. 529.5 ft. B., 71 ft. D. (mean), 26 ft.; (max.), 28 ft. Disp., 14,100 tons.

I.H.P. 30,000=23 kts. Coal cap., 1250/2500 tons.

Engines: 2 sets 3 expans. *Drake* by Humphrys & Tennant, others by builders. Boilers, Belleville.

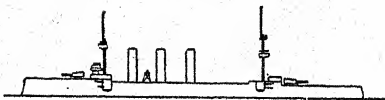
Trials: *Drake*, I.H.P. 30,557=23 kts.; *King Alfred*, I.H.P. 31,156=23.4 kts.; *Leviathan*, I.H.P. 31,592=23.2 kts.

Armour: Krupp. Belt for 400 ft. from bow, 11.5 ft. wide, 6 in. amidships, 2 in. forward; after bulkheads, 8 in.; turrets, 5 in.; barbettes, 6 in.; casemates, 5 in.; C.T., 12 in.; deck, sloping, 1.5 in. amidships and forward, 2.5 in. aft; main deck, amidships, 1 in.

Armament: 2-9.2 in. (45 cal.) in turrets f. and a.; 16-6 in. (45 cal.) in double-decked casemates; 14-3 in. (12 pr.); 3-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 900.

(*Good Hope*, sister ship, sunk 1914.)



G				
<b>CORNWALL</b>	Pembroke,	29.10.02.	Ld. dn. 11.3.01.	Estimates, 1900
<b>SUFFOLK</b>	Portsmouth,	15.1.03.	" 25.3.01.	" "
<b>BERWICK</b>	Dalmuir,	20.9.02.	" 19.4.01.	" "
<b>CUMBERLAND</b>	Govan,	16.12.02.	" 19.2.01.	" "
<b>DONEGAL</b>	Fairfield,	4.9.02.	" 14.2.01.	" "
<b>LANCASTER</b>	Elswick,	22.3.02.	" 4.3.01.	" "
<b>ESSEX</b>	Pembroke,	29.8.01.	" 1.1.00.	Sup. Ests. 1898
<b>KENT</b>	Portsmouth,	6.3.01.	" 2.2.00.	" "

L., p.p. 440 ft. B., 66 ft. D. (mean), 24.5 ft. Disp., 9800 tons.

I.H.P. 22,000=23 kts. Coal cap., 800/1600 tons.

Engines: 2 sets 3 expans. *Essex* by J. Brown & Co.; *Kent*, *Cornwall*, and *Lancaster* by Hawthorn, Leslie, & Co.; *Suffolk* and *Berwick* by Humphrys & Tennant, with Niclausse boilers, others by builders; *Cornwall*, Babcock & Wilcox boilers; others, Belleville.

Trials: *Cornwall*, I.H.P. 22,699=23.6 kts.; *Suffolk*, I.H.P. 22,645=24.7 kts.; *Berwick*, I.H.P. 22,681=23.6 kts.; *Cumberland*, I.H.P. 22,784=23.6 kts.; *Donegal*, I.H.P. 22,173=23.5 kts.; *Lancaster*, I.H.P. 22,881=24 kts.; *Essex*, I.H.P. 22,219=22.8 kts.; *Kent*, I.H.P. 22,249=21.7 kts. (All have done 23 or 24 kts. on service.)

Armour: Krupp. Belt for 330 ft. from bow, 11.5 ft. wide, 4 in. amidships, 2 in. forward; after bulkhead, 5 in.; casemates, 4 in.; turrets and barbettes, 5 in.; C.T., 10 in.; deck, sloping, 7 in.; main deck, 1.2 in.

Armament: 14—6 in. (45 cal.), four in pairs in turrets f. and a., ten in casemates; 8—3 in. (12 pr.); 3—3 pr. Torpedo tubes, 2—18 in. submerged, broadside.

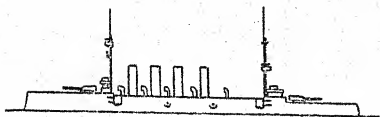
Compt. 655.

(*Monmouth*, sister ship, sunk 1914.)

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.



**F**

<b>EURYALUS</b>	. . Barrow,	20.5.01.	Ld. dn. 18.7.99.	Estimates, 1898
<b>BACCHANTE</b>	. . Clydebank,	21.2.01.	" 5.12.99.	" "
<b>SUTLEJ</b>	. . . Clydebank,	18.11.99.	" 15.8.98.	Sup. Ests. "

L., p.p. 440 ft. ; w.l. 454 ft. B., 69.5 ft. D. (mean), 26.2 ft. ;  
(max. at full load), 29 ft. Disp., 12,000 tons.

I.H.P. 21,000=21 kts. Coal cap., 800/1600 tons.

Engines : 2 sets 3 expans. by builders. Boilers, Belleville.

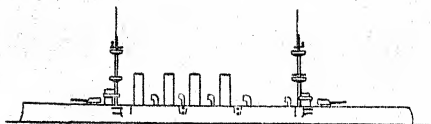
Trials : *Euryalus*, I.H.P. 21,318=21.6 kts. ; *Bacchante*, I.H.P.  
21,520=21.7 kts. ; *Sutlej*, I.H.P. 21,261=21.7 kts.

Armour : Harvey nickel. Partial belt 230 ft. long, 11.5 ft. wide,  
6 in. ; belt to bow, 2 in. ; bulkheads, 5 in. ; turrets and  
barbettes, 6 in. ; casemates, 5 in. ; C.T., 12 in. ; deck,  
sloping, amidships and forward, 1.5 in. ; aft, 2.5 in. ; main  
deck, amidships, 1 in.

Armament : 2-9.2 in. (40 cal.) in turrets f. and a ; 12-6 in. (45  
cal.) in casemates ; 12-3 in. (12 pr.) ; 3-3 pr. ; 8 M.  
Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 700.

(*Cressy*, *Aboukir* and *Hogue*, sister ships, sunk 1914.)

**H**

**TERRIBLE** . . . Clydebank, 24.7.95. Laid down, 1894. Ests. 1893

L., p.p. 500 ft.; w.l. 520 ft.; o.a. 538 ft. B., 71 ft. D. (max.), 30 ft. Disp., 14,440 tons. Sheathed and coppered.

I.H.P. 25,000=22 kts. Coal cap., 1500/3000 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Trials: I.H.P. 25,572=22.4 kts.

Armour: Harvey. Deck, 6 in. on slopes, 3 in. on flat; casemates, 6 in.; turrets and barbettes, 6 in.; C.T., 12 in.

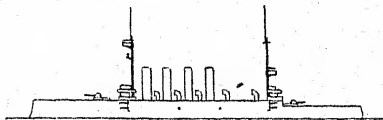
Armament: 2-9.2 in. (40 cal.) in turrets f. and a.; 16-6 in. (40 cal.) in double-decked casemates. Four of the upper deck casemates and guns added, 1902-3 (extra weight, 240 tons); 16-3 in. (12 pr.); 12-3 pr.; 2 M. Torpedo tubes, 4-18 in. submerged, broadside.

Compt. 894.

Navy Officer General VR Raghavan,

RVSM, UYSM, AVSM (Reid)

Navy Officer General ML Tuli,



## H

<b>SPARTIATE</b> . . .	Pembroke, 27.10.98.	Ld. dn. 1.5.97.	Ests. 1896
<b>AMPHITRITE</b> . . .	Barrow, 5.7.98.	" 8.12.96.	" "
<b>ARGONAUT</b> . . .	Fairfield, 24.1.98.	" 23.11.96.	" "
<b>ARIADNE</b> . . .	Clydebank, 22.4.98.	" 29.10.96.	" "
<b>ANDROMEDA</b> . . .	Pembroke, 30.4.97.	" 2.12.95.	" 1895
<b>DIADEM</b> . . .	Fairfield, 21.10.96.	" 23.1.96.	" "
<b>EUROPA</b> . . .	Clydebank, 20.3.97.	" 10.1.96.	" "

L., p.p. 435 ft.; w.t. 450 ft.; o.a. 462 ft. B., 69 ft. D. (mean), 25.2 ft.; (max. at full load), 27.5 ft. Disp., 11,000 tons.

I. H.P. in later four, 18,000=20.7 kts.; in earlier three, 16,500=20.2 kts. Coal cap., 1000/2000 tons.

Engines: 2 sets 3 expans. *Spartiate* by Maudslay; *Andromeda* by Hawthorn, Leslie, & Co.; others by builders. Boilers, Belleville.

Trials: *Spartiate*, I.H.P. 18,658=21 kts.; *Argonaut*, I.H.P. 18,894=21.1 kts.; *Amphitrite*, I.H.P. 18,229=20.7 kts.; *Ariadne*, I.H.P. 19,156=21.5 kts.; *Andromeda*, I.H.P. 16,751=20.4 kts.; *Diadem*, I.H.P. 17,262=20.6 kts.; *Europa*, I.H.P. 17,137=20.4 kts.

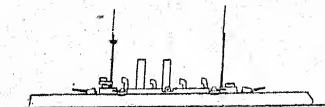
Armour: Harvey nickel. Casemates, 6 in.; shields, 4.5 in.; C.T., 12 in.; deck, 4 in. on slopes, 2.5 in. on flat.

Armament: 16—6 in. (40 cal.), four in shields—two on forecastle, two on quarter deck; twelve in casemates—eight on main deck, four on upper deck; 12—3 in. (12 pr.); 3—3 pr.; 2 M. Torpedo tubes, 2—18 in. submerged, broadside.

Compt. 677.

(*Niobe* of this class sold to Canada.)

H



<b>EDGAR</b> . . .	Devonport, 24.11.90.	Ld. dn. 3.6.89.	Naval Defence Act, 1889
<b>ENDYMION</b> . . .	Hull, 22.7.91.	"	"
<b>GRAFTON</b> . . .	Blackwall, 30.1.92.	" 1.1.90.	"
<b>THESEUS</b> . . .	Blackwall, 8.9.92.	"	"
<b>GIBALTAR</b> . . .	Glasgow, 27.4.92.	" 2.12.89.	"

L., p.p. 360 ft. B., 60 ft. (*Gibraltar*, 60.7 ft.). D. (mean), 23.7 ft. Disp., 7350 tons (*Gibraltar*, 7700 tons).

I.H.P. 12,000=19.7 kts. (*Gibraltar*, 19.5 kts.). Coal cap., 850/1200 tons.

Engines: 2 sets 3 expans. *Edgar* by Fairfield; *Endymion* and *Gibraltar* by Barle; *Grafton* by Humphrys & Tennant; *Theseus* by Maudslay. Boilers, cylindrical.

Armour: Compound. Deck, 5 in. on slopes, 1 in. on flat; coamings to engine room, 6 in.; casemates, 6 in.; hoists to big guns, 7 in.; C.T., 12 in.

Armament: 2-9.2 in. (30 cal.) in shields f. and a.; 10-6 in. (40 cal.), four in casemates on main deck, six in shields on upper deck; 12-6 pr.; 5-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 544.

(*Hawke*, sister ship, sunk 1914.)

H



<b>CRESCENT</b> . . .	Portsmouth, 30.3.92.	Ld. dn. —	Naval Defence Act, 1889
<b>ROYAL ARTHUR</b> . . .	" 26.2.91.	" 23.8.89.	"

Engines: *Crescent* by Penn; *Royal Arthur* by Maudslay.

Armament: 1-9.2 in. (30 cal.) in shield aft; 12-6 in. (40 cal.), two in shields on forecastle, four in casemates on main deck, six in shields on upper deck. Rest of armament and all other details as *Gibraltar*.

Lieutenant General VR Raghavan,  
PYSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli

## LIGHT CRUISERS.

## G

— ships

To be laid down 1915. Estimates, 1915.

		Building.	Ld. dn.	1914.	Ests. 1914
_____	. . . .				
_____	. . . .	"	"	"	"
_____	. . . .	"	"	"	"
_____	. . . .	"	"	"	"
<b>CORDELIA</b>	. . . .	Pembroke,	23.2.14	"	21.7.13. " 1913
<b>CARYSFORT</b>	. . . .	"	1914	"	25.2.14. " "
<b>CALLIOPE</b>	. . . .	Chatham,	"	"	2.1.14. " "
<b>CONQUEST</b>	. . . .	"	1915	"	28.2.14. " "
<b>CLEOPATRA</b>	. . . .	Devonport,	"	"	26.2.14. " "
<b>COMUS</b>	. . . .	Wallsend,	1914	"	3.11.13. " "
<b>CAROLINE</b>	. . . .	Birkenhead,	"	"	28.1.14. " "
<b>CHAMPION</b>	. . . .	Hebburn,	1915	"	28.2.14. " "

Length,

Disp. (about) 3800 tons.

I.H.P. 40,000=30 kts. Oil cap., 750 tons.

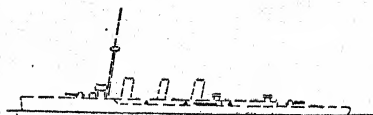
Engines: Turbines.

Armour: Krupp. Belt, 3 in.; deck, 2 in.

Armament: 2-6 in. (50 cal.); 6-4 in. (50 cal.). Torpedo tubes  
4-21 in. above water, in pairs on broadside.

Compt. .





## G

<b>AURORA</b>	. . . . .	Devonport, 30.9.13.	Ld. dn. 24.10.12.	Ests. 1912
<b>ARETHUSA</b>	. . . . .	Chatham, 25.10.13.	" 28.10.12.	" "
<b>CALATEA</b>	. . . . .	Dalmuir 1914	" 9.1.13.	" "
<b>INCONSTANT</b>	. . . . .	" "	" 3.4.13.	" "
<b>ROYALIST</b>	. . . . .	" 1915	" 3.6.13.	" "
<b>PENELOPE</b>	. . . . .	Barrow 1914	" 1.2.13.	" "
<b>PHAETON</b>	. . . . .	" "	" 12.3.13.	" "
<b>UNDAUNTED</b>	. . . . .	Fairfield "	" 21.12.12.	" "

Length, 410 ft. Beam, 39 ft. Draught (mean), 14 ft. Disp., 3600 tons.

I.H.P. 37,000=30 kts. Oil cap., 750 tons.

Engines: Turbines. *Aurora* by Parsons; *Arethusa* by Fairfield; others by builders.

Armour: Krupp. Belt, 3 in.; deck, 2 in.

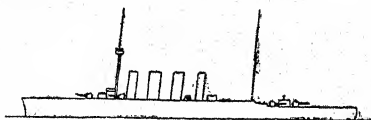
Armament: 2-6 in. (50 cal.) fore and aft; 6-4 in. (50 cal.) on broadside. Torpedo tubes, 4-21 in. above water, in pairs on broadside.

Compt. .

Lieutenant General VR Raghavan,

IVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli,



G

(*Birmingham* has 2 tops on foremast. *Lowestoft* and *Nottingham* have tripod foremasts.)

<b>BIRMINGHAM</b>	. . .	Elswick, 7.5.13.	Ld. dn. 10.6.12.	Ests. 1911
<b>LOWESTOFT</b>	. . .	Chatham, 23.4.13.	" 29.7.12.	" "
<b>NOTTINGHAM</b>	. . .	Pembroke, 18.4.13.	" 13.6.12.	" "
<b>CHATHAM</b>	. . .	Chatham, 9.11.11.	" 3.1.11.	" 1910
<b>SOUTHAMPTON</b>	. . .	Clydebank, 16.5.12.	" 30.3.11.	" "
<b>DUBLIN</b>	. . .	Dalmuir, 30.4.12.	" 4.4.11.	" "

Length, p.p. 430 ft.; o.a. 456.5 ft. Beam, 49.8 ft. Draught, (mean), 15.8 ft. Disp., 1911 ships, 5400 tons; 1912 ships, 5440 tons.

I.H.P. 25,000=25.5 kts. Coal cap., 650/1000 tons. Oil, 250 tons.

Engines: Parsons turbines in all except *Southampton* which has Curtis turbines. *Southampton* and *Dublin* by builders; *Chatham* by Thames Ironworks. Boilers, Yarrow.

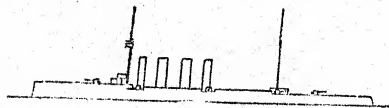
Trials: *Dublin*, I.H.P. 26,040= kts.; *Southampton*, I.H.P. 26,493= kts.; *Chatham*, I.H.P. 25,900= kts.

Armour: Belt, 3 in.; deck, 1 in.

Armament: 1911 ships, 8-6 in. (50 cal.); 1912 ships, 9-6 in. (50 cal.); 4-3 pr., 2 M., in all. Torpedo tubes, 2-21 in. submerged, broadside.

Compt. 380.

(The Australian cruisers *Sydney*, *Melbourne*, and *Brisbane* are sisters of the 1911 ships.)



<b>DARTMOUTH</b>	. . . Barrow, 14.2.11.	Laid down, 19.2.10.	Ests. 1909
<b>WEYMOUTH</b>	. . . Elswick, 18.11.10.	" 19.1.10.	" "
<b>FALMOUTH</b>	. . . Dalmuir, 20.9.10.	" 21.2.10.	" "
<b>YARMOUTH</b>	. . . Govan, 12.4.11.	" 27.1.10.	" "

L., p.p. 430 ft. ; o.a. 453 ft. B., 48.5 ft. D. (mean), 15.5 ft.  
Disp., 5250 tons.

I.H.P. 22,000=24.7 kts. Coal cap., 1000 tons. Oil, tons.

Engines: Parsons turbines (4 shafts) by builders, but *Weymouth* has Curtis turbines (2 shafts) by J. Brown & Co.

Trials: *Dartmouth*, I.H.P. 23,550=25.9 kts. ; *Weymouth*, I.H.P. 23,532=25.8 kts. ; *Falmouth*, I.H.P. 26,311=26 kts. ; *Yarmouth*, I.H.P. 24,000=26 kts.

Armour: Deck, 2 in.

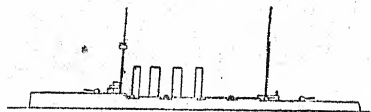
Armament: 8-6 in. (50 cal.) in shields ; 4-3 pr. ; 2 M. Torpedo tubes, 2-21 in. submerged, broadside.

Compt. 376.

Commandant General VR Raghavan.

AVSM, UYSM, AVSM (Retd)

Commandant General ML Tuli.



<b>BRISTOL</b> . . . .	Clydebank, 23.2.10.	Ld. dn. 23.3.09.	Ests. 1908
<b>GLOUCESTER</b> . . . .	Dalmuir, 28.10.09.	" 15.4.09.	" "
<b>NEWCASTLE</b> . . . .	Elswick, 25.11.09.	" 14.4.09.	" "
<b>GLASGOW</b> . . . .	Govan, 30.9.09.	" 25.3.09.	" "
<b>LIVERPOOL</b> . . . .	Barrow, 30.10.09.	" 17.2.09.	" "

L., p.p. 430 ft.; o.a. 453 ft. B., 47 ft. D. (mean), 15.2 ft.  
Disp., 4820 tons.

I.H.P. 22,000=25 kts. Coal cap., 1000 tons. Oil fuel, tons.

Engines: Parsons turbines (4 shafts), but *Bristol* has Curtis turbines (2 shafts); *Newcastle* by Wallsend Co.; others by builders. Boilers, Yarrow.

Trials: *Bristol*, I.H.P. 24,227=26.8 kts.; *Gloucester*, I.H.P. 23,757=26.3 kts.; *Newcastle*, I.H.P. 24,669=26.2 kts.; *Glasgow*, I.H.P. 22,472=25.8 kts.; *Liverpool*, I.H.P. 24,614=26.1 kts.

Armour: Deck, 2 in.

Armament: 2-6 in. (50 cal.) in shields forward and aft; 10-4 in. (50 cal.) in shields amidships; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 376.



**CHALLENGER** . . . Chatham, 27.5.02. Ld. dn. 1.12.00. Ests. 1900  
 L., p.p. 355 ft. B., 56 ft. D. (max.), 21.2 ft. Disp., 5880 tons.  
 I.H.P. 12,500=21 kts. Coal cap., 500/1225 tons.  
 Engines: 2 set 3 expans. by Wallsend Co. Boilers: Babcock & Wilcox.

Trials: I.H.P. 12,781=21.1 kts.

Armour: Krupp. Deck, amidships, 3 in. on slopes and 1.5 in. on flat; at ends, 2 in. on slopes and 1 in. on flat; C.T., 6 in.

Armament: 11-6 in. (45 cal.) in shields; 9-3 in. (12 pr.); 1-3 pr.; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 475.

(The *Encounter*, a sister ship, has been handed over to Australia).

**HIGHFLYER** . . . . . Fairfield, 4.6.98. Ld. dn. 7.6.97. Ests. 1896  
**HYACINTH** . . . . . Govan, 27.10.98. „ 27.1.97. „ „

L., p.p. 350 ft. B., 54 ft. D. (mean), 20.5 ft. Disp., 5600 tons. Sheathed and coppered.

I.H.P. 10,000=20 kts. Coal cap., 500/1100 tons.

Engines: 2 sets 3 expans. by builders. Boilers: Belleville.

Trials: *Highflyer*, I.H.P. 10,334=20.1 kts.; *Hyacinth*, I.H.P. 10,536=19.4 kts. (foul bottom).

Armour and Armament: as *Challenger*.

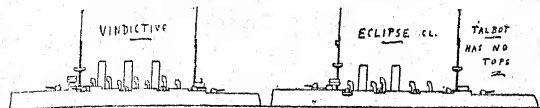
Compt. 456.

(*Hermes*, sister ship, sunk 1914.)

Lieutenant General VR Raghavan,

PYSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.



**VINDICTIVE**. . . . Chatham, 9.12.97. Ld. dn. 27.1.96. Ests. 1895  
L., p.p. 320 ft. B., 57.5 ft. D. (mean), 21 ft. Disp., 5750 tons.  
I.H.P. 10,000=19 kts. Coal cap., 500/1175 tons.

Engines: 2 sets 3 expans. by Chatham D.Y. Boilers, Belleville.

Armour: Harvey nickel. On bows for 40 ft. to main deck, 2 in.; deck, 3 in. on slopes, 1.5 in. on flat; C.T., 8.7 in.

Armament: 10-6 in. (45 cal.); 8-3 in. (12 pr.); 1-3 pr.; 5 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 450.

<b>ECLIPSE</b>	Portsmouth, 19.7.94.	Ld. dn. 11.12.93.	Nav. Def. Act, 1889
<b>MINERVA</b>	Chatham, 23.9.95.	" 12.93.	" "
<b>TALBOT</b>	Devonport, 25.4.95.	" 5.3.94.	" "
<b>DIANA</b>	Fairfield, 5.12.95.	" —	Estimates, 1894
<b>DIDO</b>	Govan, 20.8.96.	" —	" "
<b>DORIS</b>	Barrow, 3.3.96.	" 10.94.	" "
<b>ISIS</b>	Govan, 27.6.96.	" —	" "
<b>JUNO</b>	Barrow, 16.11.95.	" 10.94.	" "
<b>VENUS</b>	Fairfield, 5.9.95.	" 11.94	" "

L., p.p. 350 ft.; o.a. 370.2 ft. B., 54 ft. D. (mean), 20.5 ft. Disp., 5600 tons. Sheathed and coppered.

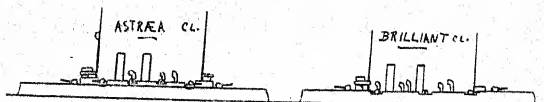
I.H.P. 9600=19.5 kts. Coal cap., 550/1076 tons.

Engines: 2 sets 3 expans. by builders. Boilers, cylindrical.

Armour: Harvey. Deck, 2.5 in. to 1.5 in.; C.T., 6 in.

Armament: 11-6 in. (45 cal.); 8-3 in. (12 pr.); 7-3 pr.; 2 M. Torpedo tubes, 3-18 in.; 2 submerged, broadside; one above water, stern.

Compt. 450.



**ASTRÆA** . . Devonport, 17.3.93

**CHARYBDIS** Sheerness, 15.6.93

Naval Defence Act, 1889.

**HERMIONE** Devonport, 7.11.93

**FOX** . . . Portsmouth, 15.6.93

Sheathed and coppered

L., p.p. 320 ft. B., 49.5 ft. D., 19 ft. Disp., 4360 tons.

I.H.P. 9000=19.5 kts. Coal cap., 400/1000 tons.

Engines: 2 sets 3 expans. *Charybdis* by Earle; *Hermione* by Thomson (Clydebank); others by builders. Boilers, cylindrical.

Armour: Deck, 2 in. to 1 in.; engine coamings, 5 in.; C.T., 3 in.

Armament: 2-6 in. (40 cal.); 8-4.7 in. (40 cal.); 8-6 pr.; 1-3 pr.; 4 M. Torpedo tubes, 4-18 in. above water.

Compt. 318.

**BRILLIANT** . . Sheerness, 24.6.91

**SAPPHO** . . . Poplar, 9.5.91

**SIRIUS** . . . Elswick, 27.10.90

Naval Defence Act, 1889

(*Brilliant* and *Sirius* sheathed and coppered.)

L., p.p. 300 ft. B., unsheathed, 43 ft.; sheathed, 43.7 ft. D., unsheathed, 16 ft.; sheathed, 17.5 ft. Disp., unsheathed, 3400 tons; sheathed, 3600 tons.

I.H.P. 9000=20 kts. unsheathed, 19.7 kts. sheathed. Coal cap., 400/535 tons.

Engines: 2 sets 3 expans. Dockyard ship by Hawthorn, Leslie, & Co.; *Sappho* by Penn; *Sirius* by Maudslay. Boilers, cylindrical.

Armour: Deck, 2 in. to 1 in.; engine coamings, 5 in.; C.T., 3 in.

Armament: 2-6 in. (40 cal.); 6-4.7 in. (40 cal.); 8-6 pr.; 1-3 pr.; 4 M. Torpedo tubes, 4-18 in. above water.

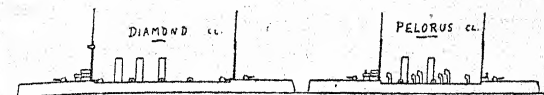
Compt. 273.

(A sister, the *Terpsichore*, is to replace the *Britannia* at Dartmouth.)

Narrant General VR Raghavan.

FVSM, UYSM, AVSM (Retd)

Narrant General ML Tuli.



## PROTECTED CRUISERS—III. CLASS.

J

<b>DIAMOND</b>	. . . .	Birkenhead, 6.1.04.	Ld. dn. 24.3.03.	Ests. 1902
<b>SAPPHIRE</b>	. . . .	Jarrow, 17.3.04.	„ 30.3.03.	„ „
<b>AMETHYST</b>	. . . .	Elswick, 5.11.03.	„ 7.1.03.	„ 1901
<b>TOPAZE</b>	. . . .	Birkenhead, 23.7.03.	„ 14.8.02.	„ „

L., p.p. 360 ft. B., 40 ft. D. (mean), 14.5 ft. Disp., 3000 tons.

I.H.P. 9800 = 22 kts. Coal cap., 300/500 tons.

Engines: 2 sets 3 expans. by builders, but *Amethyst* has 4 sets Parsons turbines by Parsons Co. Boilers: *Diamond* and *Topaze*, Laird-Nermand; *Sapphire*, Reed; *Amethyst*, Yarrow

Trials: *Diamond*, I.H.P. 10,066 = 22.1 kts.; *Sapphire*, I.H.P. 10,200 = 22.3 kts.; *Amethyst*, I.H.P. 14,200 = 23.4 kts.; *Topaze*, I.H.P. 9860 = 22.1 kts.

Armour: Krupp. Deck, 2 in.

Armament: 12—4 in. (45 cal.); 8—3 pr.; 2 M. Torpedo tubes, 2—18 in. above water.

Compt. 296.



## J

**PANDORA** . . . Portsmouth, 17.1.00 **PSYCHE** . . . Devonport, 28.7.98  
**PYRAMUS** . . . Jarrow, 15.5.97 **PROSERPINE** . . . Sheerness, 5.12.96  
**PELORUS** . . . . . Sheerness, 15.2.96

L., p.p. 300 ft. B., 36.5 ft. D. (mean), 15 ft. Disp., 2135 tons.  
 (*Pandora*, L., 305 ft. B., 36.7 ft. Disp., 2200 tons).

I.H.P. 7000=20 kts. Coal cap., 250/500 tons.

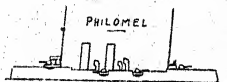
Engines: 2 sets 3 expans. ; *Psyche* and *Proserpine* by Keyham ;  
*Pelorus* by Thomson ; others by builders. Boilers: *Pelorus*,  
 Normand ; *Pyramus*, Reed ; others, Thornycroft.

Armour: Deck, 2 in. ; C.T., 3 in.

Armament: 8-4 in. (40 cal.) ; 8-3 pr. ; 2 M. Torpedo tubes,  
 2-14 in. above water.

Compt. 225.

(*Pegasus*, sister ship, sunk 1914.)



## J

**PHILOMEL** . . . . . Devonport, 28.1.90  
**WALLAROO** . . . . .

L., p.p. 265 ft. B., 41 ft. D. (mean), 15.5 ft. Disp., 2575 tons.  
 I.H.P. 4000=16.5 kts. Coal cap., 300/440 tons.

Engines: 2 sets 3 expans. by Earle. Boilers, cylindrical.

Armour: Deck, 2.5 in. on slopes, 1 in. on flat.

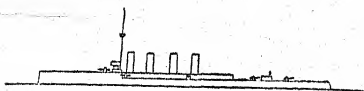
Armament: 8-4.7 in. (40 cal.) ; 8-3 pr. ; 4 M. Torpedo tubes,  
 4-14 in. above water.

Compt. 219.

Major General VR Raghavan,

MSM, UYSM, AVSM (Retd)

Major General ML Tuli,



K				
<b>FEARLESS</b>	. . . . .	Pembroke, 12.6.12.	Ld. dn. 15.11.11.	Ests. 1911
<b>ACTIVE</b>	. . . . .	" 14.3.11.	" 27.7.10.	" "
<b>BLONDE</b>	. . . . .	" 22.7.10.	" 6.12.09.	" 1909
<b>BLANCHE</b>	. . . . .	" 25.11.09.	" 12.4.09.	" "

L., p.p. 385 ft.; o.a. 405.7 ft. B., 41.5 ft. D. (mean), 13.5 ft.  
Disp., 3360 tons.

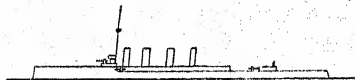
I.H.P. 18,000=25 kts. Coal cap., 450 tons. Oil, 100 tons.

Engines: Parsons turbines (4 shafts; 2 shafts in latest two).  
*Blonde* by Laird; others by Hawthorn, Leslie, & Co. Boilers,  
Yarrow.

Trials: ; *Active*, I.H.P. 19,498=25.9 kts.;  
*Blonde*, I.H.P. 18,770=25.4 kts.; *Blanche*, I.H.P. 18,543=  
25.6 kts.

Armament: 10-4 in. (50 cal.). Torpedo tubes, 2-21 in. above  
water. Compt. 292.

(*Amphion*, sister ship, sunk 1914.)



K				
<b>BELLONA</b>	. . . . .	Pembroke, 20.3.09.	Laid down, 15.6.08.	Ests. 1908
<b>BOADICEA</b>	. . . . .	" 14.5.08.	" 1.6.07.	" 1907

Beam in *Boadicea*, 41 ft. Disp., 3300 tons. Otherwise as  
*Blanche*. *Bellona* as *Blanche* class.

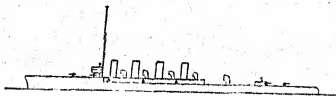
Engines: *Bellona* by Fairfield, *Boadicea* by J. Brown & Co.

Trials: *Bellona*, I.H.P. =25.9 kts. *Boadicea*, I.H.P.  
=25.7 kts.

Armament: 6-4 in. (50 cal.). Torpedo tubes, 2-18 in. above  
water. Compt. 264.

(Otherwise as *Blanche* class.)

## SCOUTS.



## K

**ADVENTURE** . . . Elswick, 8.9.04. Laid down, 7.1.04. Ests. 1902  
**ATTENTIVE** . . . " 23.11.04. " 8.1.04. " 1903

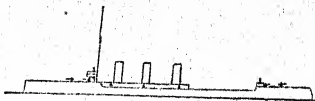
L., 374 ft. B., 38.2 ft. D., 12.5 ft. Disp., 2670 tons.  
 I.H.P. 16,000=25 kts. Coal cap., 150/485 tons.  
 Engines: 2 sets 3 expans. by Hawthorn, Leslie, & Co. Boilers,  
 Yarrow.

Trials: *Adventure*, I.H.P. 15,850=25.4 kts.; *Attentive*, I.H.P.  
 16,195=25.8 kts.

Armour: Krupp. Deck, 2 in. on slopes, .6 in. on flat; C.T.,  
 3 in.

Armament: 9-4 in. (50 cal.); 8-3 pr. Torpedo tubes, 2-18  
 in. above water.

Compt. 268.



## K

**FORWARD** . . . Fairfield, 27.8.04. Laid down, 22.10.03. Ests. 1902  
**FORESIGHT** . . . " 8.10.04. " 24.10.03. " 1903

L., 365 ft. B., 38.7 ft. D., 14.4 ft. Disp., 2850 tons.

I.H.P. 16,000=25 kts. Coal cap., 150/485 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Thornycroft.

Trials: *Forward*, I.H.P. 15,018=25.2 kts.; *Foresight*, I.H.P.  
 14,830=25.2 kts.

Armour: Krupp. Belt over machinery spaces, 2 in.; deck at  
 ends, 1.1 in. on slopes, .6 in. on flat.

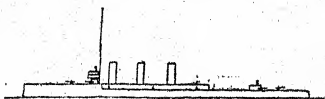
Armament: 9-4 in. (50 cal.); 8-3 pr. Torpedo tubes, 2-18  
 in. above water.

Compt. 268.

Narrant General VR Raghavan,

PSM, UYSM, AVSM (Retd)

Narrant General ML Tuli,



**K**  
**PATROL** . . . Birkenhead, 12.10.04. Ld. dn. 31.10.03. Ests. 1903-4

L., 370 ft. B., 38.7 ft. D., 14.2 ft. Disp., 2940 tons.

I.H.P. 16,500=25 kts. Coal cap., 150/485 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Laird-Normand.

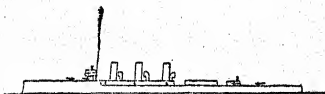
Trials: I.H.P. 16,460=25 kts.

Armour: Deck, 2.5 in. on slopes, .6 in. on flat.

Armament: 9-4 in. (50 cal.); 8-3 pr. Torpedo tubes, 2-18 in. above water.

• Compt. 268.

(*Pathfinder*, sister ship, sunk 1914.)



**K**  
**SENTINEL** . . . . . Barrow, 19.4.04. Ld. dn. 8.6.03. Ests. 1902-3  
**SKIRMISHER** . . . . . „ 7.2.05. „ 29.7.03. „ 1903-4

L., 360 ft. B., 40 ft. D., 14.2 ft. Disp., 2895 tons.

I.H.P. 17,000=25 kts. Coal cap., 150/485 tons.

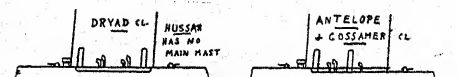
Engines: 2 sets 3 expans. by builders. Boilers, Vickers.

Trials: *Sentinel*, I.H.P. 17,488=25.2 kts. *Skirmisher*, I.H.P. 16,899=25.2 kts.

Armour: Deck, 1.5 in. on slopes, .6 in. on flat.

Armament: 9-4 in. (50 cal.); 8-3 pr. Torpedo tubes, 2-18 in. above water.

Compt. 268.



## TORPEDO GUNBOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boiler.	Armament.	Coal Cap.	Compt.	
<b>L</b>			ft.	ft.	ft.	tns.		kts.			tns.		
Dryad . . .	'93	C	250	30.5	9	1070	4500	18.5	{ L E L L T T T T T R D N R R R	{ 2-4.7 in. (Hussar, 1) 4-6 pr.; 1 M. 5-18 in. t.	{ 100	115	
Halcyon . . .	'94	D											
Harrier . . .	'94	D											
Hazard . . .	'94	P											
Hussar . . .	'94	D	230	27	8.7	810	3500	19.2		{ L E L L T T T T T R D N R R R	{ 2-4.7 in.; 4-3 pr.; 1 M. 3-18 in. t.	{ 100	85
Antelope . . .	'92	D											
Circe . . .	'92	S											
Leda . . .	'93	S											
Hebe . . .	'92	S	230	27	8.2	735	3500	19		{ L E L L T T T T T R D N R R R	{ 2-4.7 in.; 4-3 pr.; 1 M. 5-14 in. t.	{ ..	91
Jason . . .	'92	B											
Gossamer . . .	'90	S											
Spanker . . .	'89	D											
Seagull . . .	'89	D	230	27	8.2	735	3500	19	{ L E L L T T T T T R D N R R R	{ 2-4.7 in.; 4-3 pr.; 1 M. 5-14 in. t.	{ ..	91	
Skipjack . . .	'89	C											
Speedwell . . .	'89	D											

Builders: C=Chatham; D=Devonport; P=Pembroke; S=Sheerness; T=Thornycroft; B=Barrow.

Boilers: L=Locomotive; E=Express; T=Thornycroft; R=Reed; B=Belleville; D=Du Temple; N=Niclausse.

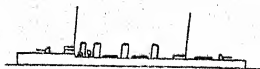
Ships with water-tube boilers have all done about 21 kts.

(*Speedy and Niger* of *Antelope* class sunk 1914.)

Ensign General VR Raghavan,  
FMSM, UYSM, AVSM (Retd)

Ensign General ML Tuli,

## DESTROYERS (see NOTES, p. 194.)



M\*

——, W, bg. ———, W, bg. Botha, W, '14. Broke, W, '13.  
 Faulknor, W, '13. Tipperary, W, '14 (ex Chilean *Almirante Simpson*, *Al. Goñi*, *Al. Rebolledo*, *Al. Condell*, *Al. Lynch*, *Al. Riveros*).  
 Length, 320 ft. Beam, 32.5 ft. Draught, 11 ft. Disp., 1430  
 tons (full load, 1850).  
 I. H. P. 27,000=31 kts. Coal 200/407 tons and 80 tons oil.  
 Engines: Parsons turbines. Boilers: Laird-Normand.  
 Armament: 6—4 in. ; 2 M. Torpedo tubes, 3—18 in.

M\*

(— boats to be built.)

N Class. Estimates, 1914.

12 boats . . . . . building. Estimates, 1914.

Flotilla leader *Nimrod*, Dc, bdg.

M\*

M Class. Estimates, 1913.

Manly, Y, '14. Mansfield, H, '14. Mastiff, T, '14. Matchless, Z, '14.  
 Mentor, H, '14. Meteor, T, '14. Milne, C, '14. Minos, Y, '14.  
 Miranda, Y, '14. Moorson, C, '15. Morris, C, '14. Murray, P, '14.  
 Myngs, P, '15.

Length,            Beam,            Draught,            Disp., 1200 tons  
 (about).

I. H. P.            =34 kts.

Engines: Curtis turbines in first six, Parsons in others.

Armament: 4—4 in. (50 cal.). Torpedo tubes, 4—21 in. in pairs.

Compt. . . . .

Flotilla leader *Marksman*, H, bdg. Estimates, 1914.

**M\****L Class. Estimates, 1912.*

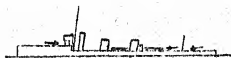
Laertes, Z, '13. Laforey, F, '13. Lance, T, '13. Landrail, Y, '14.  
 Lark, Y, '13. Laurel, W, '13. Laverock, Y, '14. Lawford, F, '13.  
 Legion, De, '13. Lennox, Be, '14. Leonidas, P, '13. Liberty,  
 W, '13. Linnet, Y, '13. Llewellyn, Be, '13. Lookout, T, '13.  
 Louis, F, '13. Loyal, De, '13. Lucifer, P, '13. Lydiard, F, '14.  
 Lysander, Z, '13.

Length, 260 ft. Beam, 27.6 ft. Draught, 9.4 ft. Disp., 965 tons.  
 I.H.P. 24,500=29 kts. Oil cap., 130/200 tons.

Engines: Parsons turbines in all save *Lark* and *Linnet*, which have Curtis.

Armament: 3-4 in. (50 cal.). Torpedo tubes, 4-21 in. in pairs.

Compt. 100.

*Flotilla leader Lightfoot, W, bdg. Estimates, 1914.***M\****K Class. Estimates, 1911.*

Acasta, O, '13. Achates, C, '13. Ambuscade, C, '13. Ardent, De, '13.  
 Christopher, H, '12. Cockatrice, H, '12. Contest, H, '13. Fortune,  
 F, '13. Garland, P, '13. Lynx, Lo, '13. Midge, Lo, '13. Owl,  
 Lo, '13. Shark, Z, '12. Sparrowhawk, Z, '12. Spitfire, Z, '13.  
 Hardy, T, '12. Paragon, T, '13. Porpoise, T, '13. Unity, T, '13.  
 Victor, T, '13.

Length, 260 ft. Beam, 27 ft. Draught, 9.3 ft. Disp., 935 tons.  
 (Last five: L., 257 ft. B., 26.5 ft. D., 9.2 ft. Disp., 928 tons.)

I.H.P. 24,500=32 kts. (Last five: I.H.P. 22,500.) Oil cap., 130 tons.

Engines: Curtis turbines in first three, Parsons in others.

Armament: 3-4 in. (50 cal.). Torpedo tubes, 4-21 in. in pairs.

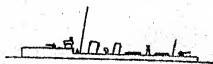
Compt. 100.

*Flotilla leader Kempenfelt, L, bdg.*

Lieutenant General VR Raghavan.

FVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**M** *I Class.* Estimates, 1910.

Defender, De, '11. Druid, De, '11. Ferret, W, '11. Forrester, W, '11.  
 Goshawk, Bd, '11. Hind, C, '11. Hornet, C, '11. Hydra, C, '11.  
 Jackal, H, '11. Lapwing, L, '11. Lizard, L, '11. Phoenix, B, '11.  
 Sandfly, Z, '11. Tigress, H, '11.

Length, 240 ft. Beam, 25.5 ft. Draught, 8.1 ft. Disp., 750 tons.

I.H.P. 13,500=27 kts. Oil cap., 89/160 tons.

Engines: Curtis turbines in *Hind*, *Hornet*, or *Hydra*; and  
 Parsons in others.

Archer, Y, '11. Attack, Y, '11.

Length, 240 ft. Beam, 25.6 ft. Draught, 8.5 ft. Disp., 786 tons.

I.H.P. 16,000=30 kts. Curtis turbines.

Firedrake, Y, '11. Lurcher, Y, '11. Oak, Y, '11.

Length, 255 ft. Beam, 25.6 ft. Draught, 8.5 ft. Disp., 790 tons.

I.H.P. 20,000=32 kts. Curtis turbines.

Badger, P, '11. Beaver, P, '11.

Length, 240 ft. Beam, 25.8 ft. Draught, 8.4 ft. Disp., 782 tons.

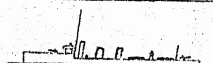
I.H.P. 16,000=32 kts. Parsons turbines.

Acheron, T, '11. Ariel, T, '11.

Length, 251.7 ft. Beam, 26.3 ft. Draught, 8 ft. Disp., 780 tons.

I.H.P. 15,500=29 kts. Parsons turbines.

Armament (of whole class): 2-4 in.; 2-3 in. (12 pr.). Torpedo  
 tubes, 2-21 in. Compt. 72.

**M** *H Class.* Estimates, 1909.

Acorn, C, '10. Alarm, C, '10. Brisk, C, '10. Camelion, F, '10.

Comet, F, '10. Fury, I, '11. Goldfinch, F, '10. Hope, Z, '10.

Larne, T, '10. Lyra, T, '10. Martin, T, '10. Minsirel, T, '10.

Nemesis, H, '10. Nerside, H, '10. Nympha, H, '11. Redpole,

W, '10. Rifleman, W, '10. Ruby, W, '10. Sheldrake, De, '10.

Staunch, De, '11.

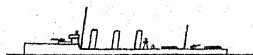
Length, 240 ft. Beam, 25.5 ft. Draught, 8.1 ft. Disp., 750 tons.

I.H.P. 13,500=27 kts. Oil cap., 89/100 tons.

Engines: Curtis turbines in first three, Parsons in others.

Armament: 2-4 in.; 2-3 in. (12 pr.). Torpedo tubes, 2-21 in.  
 Compt. 72.



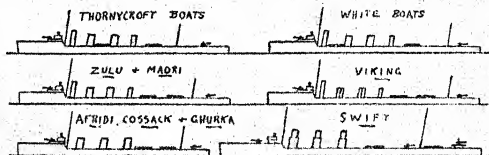


## M\* G Class. Estimates, 1908.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Fuel.	Compt.
			ft.	ft.	ft.	tns.		kts.			tns.	
Basilisk . . .	'10	W	275	28	8.7	975	12,600	27.9	W	1-4 in.; 8-3 in. (12 pr.); 2-21 in. tubes.	115	105
Harpy . . .	'09	W	275	28	8.7	975	12,600	27.7	W		115	105
Beagle . . .	'09	C	269	26.8	9.1	950	12,500	27.1	Y		102	105
Bulldog . . .	'09	C						27.4	Y		102	105
Foxhound . . .	'09	C						27.7	Y		102	105
Grasshopper . . .	'09	F	271	27.8	8.7	925	12,000	27.0	Y		115	105
Mosquito . . .	'10	F	271	27.8	8.7	925	12,000	27.1	Y		115	105
Scorpion . . .	'10	F	271	27.8	8.7	920	12,000	27.1	Y		115	105
Raccoon . . .	'10	L	266	28	8.6	915	12,500	27.0	Y		118	105
Renard . . .	'09	L	266	28	8.6	920	12,500	27.1	Y		118	105
Wolverine . . .	'10	L	266	28	8.6	915	12,050	27.1	Y		118	105
Grampus . . .	'10	Bl	267.5	28	8.1	915	12,500	28.1	Y		120	105
Pincher . . .	'10	De	271.7	28.5	8.3	975	12,750	27.1	Y		112	105
Rattlesnake . . .	'10	Lo	270.2	27.6	9.1	950	12,000	27.0	Y		104	105
Savage . . .	'10	T	264	28	8.8	900	12,500	27.1	Y		100	105
Scourge . . .	'10	H	266.7	28	8.4	925	12,500	27.0	Y		103	105

## M\* F. Class. Estimates, 1905, 1906, and 1907.

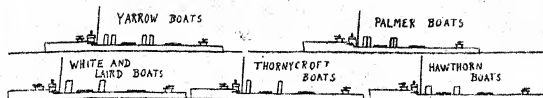
Nubian . . .	'09	T	280	26.5	9.2	985	15,500	34.7	T	5-12 in.; 2-18 in. t. 2-18 in. t.	98	71
Amazon . . .	'08	T	280	26.5	9.1	970	15,500	33.7	T		86	71
Crusader . . .	'09	W	280	26	9.6	1045	15,500	34.8	W		98	71
Saracen . . .	'08	W	272	26	9.4	980	15,500	33.8	W		83	71
Zulu . . .	'06	H	280	27	8.8	1627	15,500	33.5	Y		94	71
Viking . . .	'09	J	280	27.5	9.1	1090	15,500	33.4	Y		108	71
Maori . . .	'09	De	280	27	8.7	1035	15,500	33.2	Y		103	71
Tartar . . .	'07	T	270	26	9.1	870	14,500	35.4	T		76	60
Mohawk . . .	'07	W	270	25	8.8	865	14,500	34.3	W		74	60
Ghurka . . .	'07	H	255	25.6	9.2	880	14,250	33.9	Y		78	60
Cossack . . .	'07	L	270	25	9.2	885	14,000	33.1	L	4-4 in.; 2-18 in. tubes.	98	60
Afridi . . .	'07	A	250	25	8.5	872	14,250	32.7	Y		93	60
Swift . . .	'07	L	345	34.2	10.5	2170	30,000	35.2	L		180	150



Lieutenant General VR Raghavan,

PYSM, UTSM, AVSM (Retd)

Lieutenant General ML Tuli,

**M E Class.** (River Class.)

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
			ft.	ft.	ft.	tons		kts.			tns.	
Cherwell . . .	'03	J	225	23.5	10	545	7000	25.6	R	4-3 in. (12 pr., 8 cwt.); 2-18 in. torpedo tubes.	132	70
Dee . . .	'03	J	225	23.5	10	545	7000	25.5	R		132	70
Erne . . .	'03	J						25.6	R		132	70
Ettrick . . .	'03	J	225	23.5	10	550	7000	25.5	R		132	70
Exe . . .	'03	J						25.6	R		132	70
Rother . . .	'04	J	225	23.5	10	540	7000	25.5	R		132	70
Ure . . .	'04	J						25.6	R		132	70
Wear . . .	'04	J						25.6	R		132	70
Swale . . .	'05	J	225	23.5	10	550	7000	25.5	R		132	70
Arun . . .	'03	L						25.7	L		132	70
Foyle . . .	'03	L						25.6	L		132	70
Itchen . . .	'03	L						25.6	L		132	70
Liffey . . .	'04	L						25.5	L		132	70
Ouse . . .	'04	L	220	23	8	550	7000	25.5	L		132	70
Moy . . .	'05	L						25.6	L		132	70
Stour . . .	'09	L	220	23.9	8	570	7000	25.5	L		67	70
Test . . .	'09	L	220	23.9	8	570	7000	25.6	L		67	70
Boyne . . .	'04	H						25.7	Y		132	70
Doon . . .	'05	H	220	23	8	545	7000	25.8	Y		132	70
Kale . . .	'05	H						25.7	Y		132	70
Derwent . . .	'03	H	225	23.5	10	555	7000	25.6	Y		132	70
Waveney . . .	'03	H	225	23.5	10	560	7000	25.6	Y		132	70
Eden . . .	'03	H	220	23.5	8.9	555	7500	26.2	Y		132	70
Teviot . . .	'03	Y						25.8	Y		132	70
Usk . . .	'03	Y	225	23.5	10	590	7500	26.0	Y		132	70
Ribble . . .	'04	Y						25.8	Y		132	70
Welland . . .	'04	Y						26.2	Y		132	70
Garry . . .	'05	Y	232	23.8	9.4	590	7500	26.5	Y		152	70
Kennet . . .	'03	T	220	23	8	550	7500	25.9	T		132	70
Jed . . .	'04	T	220	23	8	560	7500	25.7	T		132	70
Chelmer . . .	'04	T	222	23	8	560	7500	25.7	T		132	70
Colne . . .	'04	T	222	23	8	560	7500	25.5	T		132	70
Ness . . .	'04	W	224	24	9	555	7000	25.6	T		132	70
Nith . . .	'05	W	224	24	9	555	7000	25.6	W		132	70

## N D Class.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
N			ft.	ft.	ft.	tons.		kts.			tns.	
Desperate	'96	T						30.3	T	1-12 pr.; 5-6 pr.; 2-18 in. tubes.	80	60
Fame	'96	T	210	19.5	7.2	340	5700	30.1	T		80	60
Foam	'96	T						30.1	T		80	60
Mallard	'96	T						30.1	T		80	60
Angler	'97	T	210	19.5	7.2	335	5400	30.4	T		80	60
Coquette	'97	T						30.2	T		80	60
Cygnets	'98	T	210	19.5	7.2	355	5700	30.3	T		80	60
Cyathia	'98	T						30.2	T		80	60
Stag	'99	T	210	19.5	7.2	345	5800	30.5	T		80	60

## N C Class.

Bat	'96	J						30.2	R		85	62
Crane	'96	J	215	20.8	6.6	360	5900	30.7	R	1-12 pr.; 5-6 pr.; 2-18 in. tubes.	85	62
Star	'96	J						31.0	R		85	62
Whiting	'96	J						30.7	R		85	62
Fawn	'97	J						30.2	R		85	62
Flirt	'97	J	215	20.8	6.6	380	6200	30.1	R		85	62
Flying Fish	'97	J						30.3	R		85	62
Albatross	'98	T	227	21.2	8.4	430	7500	31.5	T		95	68
Brazen	'96	C	210	20	5.2	390	5800	29.5	L		80	60
Electra	'96	C	210	20	5.2	385	5800	29.5	L		80	60
Recruit	'96	C	210	20	5.2	385	5800	29.5	L		80	60
Kestrel	'98	C	210	20	5.2	380	5800	30.0	L		80	60
Vulture	'98	C	210	20	5.2	380	5800	30.2	L		80	60
Vigilant	'00	C	210	20	5	400	6400	30.1	N		80	60
Thorn	'00	C	210	20	5	400	6400	30.1	N		80	60
Fairy	'97	F						30.2	T		80	60
Gipsy	'97	F	210	21	8	380	6300	30.2	T		80	60
Osprey	'97	F						30.6	T		80	60
Leven	'98	F	210	20	8	370	6300	30.3	T		80	60
Falcon	'99	F	210	21.7	5.3	375	6300	30.1	T		80	60
Ostrich	'00	F	210	21.7	5.3	375	6300	30.1	T		80	60
Avon	'96	B	210	20	5.3	355	6300	30.2	T		80	60
Bittern	'97	B	210	20	5.3	355	6300	30.4	T		80	60
Leopard	'97	B	210	21	8	385	6300	30.1	T		80	60
Otter	'96	B	210	21	8	385	6300	30.2	T		80	60
Vixen	'00	B	210	20	5	400	6000	29.5	T		88	60
Cheerful	'97	H	210	20	8	370	6100	30.1	T		80	60
Mermaid	'98	H	210	20	8	370	6100	30.9	T		80	60
Greyhound	'00	H						30.4	Y		90	60
Racehorse	'00	H	210	21	9	400	6000	30.3	Y		90	60
Roeback	'01	H						30.4	Y		90	60
Velox	'02	H	210	21	8	420	7000	27.1	Y		90	60
Sylvia	'97	D	210	20	7.6	350	6300	30.0	T		80	60
Violet	'97	D	210	20	7.6	350	6300	30.1	T		80	60
Bullfinch	'98	E	210	20.6	5.8	370	5800	29.2	T		80	60
Dove	'98	E	230	20.6	5.8	370	5800	29.5	T		80	60

Lieutenant General VR Raghavan,

FVSM, UYSM, AVSM (Retd)

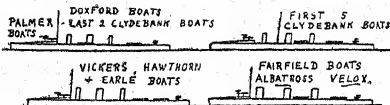
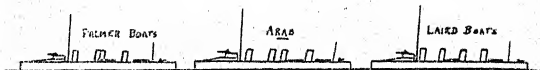
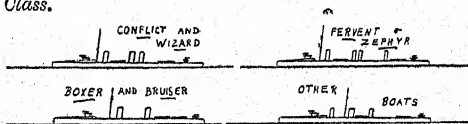
Lieutenant General ML Tuli,

## N B Class.

Name.	Date.	Bulder.	Length.	Beam.	Draught.	Disp.	L.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
Albacore.	'08	J	ft. 215	ft. 21	ft. 7	tns. 440	6000	kts. 26.7	R	3-12 pr. in first two; 1-12 pr. 5-6 pr. in others; 2-18 in. tubes.	tns. 43	..
Bonetta.	'08	J	215	21	7	440	6000	26.7	R		43	..
Quail.	'95	L	215	21	7	440	6000	30.3	R		50	60
Thrasher.	'95	L	210	21.7	5.3	395	6300	30.1	L		50	60
Virago.	'95	L	210	21.7	5.3	355	6300	30.1	L		50	60
Earnest.	'96	L	210	21.7	5.3	355	6300	30.1	L		50	60
Locust.	'96	L	210	21.7	5.3	355	6300	30.1	L		50	60
Panther.	'97	L	210	21.7	5.3	385	6300	30.1	L		50	60
Sael.	'97	L	210	21.7	5.3	385	6300	30.1	L		50	60
Wolf.	'97	L	210	21.7	5.3	385	6300	30.2	L		50	60
Griffon.	'96	L	210	20	5.3	355	6300	30.1	L		50	60
Orwell.	'98	L	210	21	8	369	6360	30.3	L		50	60
Express.	'97	L	235	22	9	465	9250	30.1	L		50	60
Lively.	'00	L	218	20	6	400	6250	30.2	L		50	60
Sprightly.	'00	L	218	20	6	400	6250	30.0	R		50	58
Peterel.	'99	J	215	20.8	6.6	370	6200	30.3	R		55	62
Spiteful.	'99	J	215	20.8	6.6	390	6200	30.0	R		55	62
Syren.	'00	J	215	20.8	6.6	390	6100	30.1	R		55	62
Kangaroo.	'00	J	215	20.8	6.6	370	6200	30.2	R		55	62
Myrmidon.	'00	J	215	20.8	6.6	370	6200	31.0	N		50	60
Arab.	'01	C	218	20	5	470	8600	30.2	T		60	60
Success.	'01	D	210	21	9	385	6000	30.2	T		60	60

## N A Class.

Opossum.	'95	H	200	19	7	320	4000	26.2	Y	1-3 in. (12 pr.); 5-6 pr.; 2-18 in. torpedo tubes.	60	50
Ranger.	'95	H	200	19	7	320	4000	27.1	Y		60	50
Sunfish.	'95	H	200	19	7	315	4000	27.6	Y		60	50
Lightning.	'95	J	200	19.7	6.7	320	3900	27.9	R		74	60
Porcupine.	'95	J	200	19.7	6.7	320	3900	27.9	R		74	60
Conflict.	'94	W	205.5	20	6	350	4800	27.2	L		60	50
Wizard.	'95	W	200	19.5	6.5	320	4800	27.1	W		60	50
Surly.	'94	C	200	19.5	6	310	4100	28.0	L		60	50
Fervent.	'95	P	200	19	7.8	310	3850	26.7	R		60	50
Zephyr.	'95	P	200	19	7.8	310	3850	27.1	R		60	50
Boxer.	'94	T	200	19	7.8	280	4300	29.1	T		60	46
Bruiser.	'95	T	200	19	7.8	280	4300	29.9	T		60	45

*C Class.**B Class.**A Class.*

## NOTES ON DESTROYERS.

K CLASS: *Hardy* has Diesel engines for cruising, and modified Parsons turbines for full speed. I CLASS: Parsons boats have geared turbines; their hulls are by Denny. H CLASS: These and all later boats burn oil only. G CLASS: These boats burn coal. F CLASS: These boats burn oil. E CLASS: *Stour* and *Test* bought to replace boats lost; *Eden* has Parsons turbine engines, others reciprocating. C CLASS: *Albatross* designed for 32 knots; *Velox* has a combination of Parsons turbines and reciprocating engines. B CLASS: *Albacore* and *Bonetta*, bought to replace boats lost; they have Parsons turbine engines. *Express* designed for 33 knots, *Arab* for 32. A CLASS: *Conflict* and *Wizard* have engines by Maudslay.

Builders: A=Armstrong, Elswick; B=Vickers, Barrow; Be=Beardmore, Dalmuir; Bl=Thames Ironworks, Blackwall; C=Clydebank; D=Doxford, Sunderland; De=Denny, Dumbarton; E=Earle, Hull; F=Fairfield; H=Hawthorn, Leslie, & Co.; I=Ingis, Glasgow; J=Palmer, Jarrow; L=Laird, Birkenhead; Lo=London and Glasgow Co.; P=Hanna, Donald, & Wilson, Paisley; Pa=Parsons Co.; T=Thornycroft, Chiswick and Southampton; W=White, Cowes; Y=Yarrow, Poplar and Scotstoun; Z=Swan & Hunter, Newcastle. Boilers: Same abbreviations (L=Laird-Normand; R=Reed).

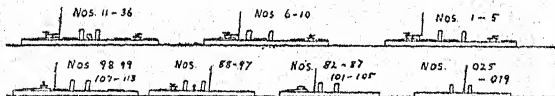
Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## TORPEDO BOATS.

	Numbers.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Fuel.	Compt.
O													
3	35, 36, 24	'07/0	J	177	17.7	6.5	238	4000	26	Y	2-3 in. (12 pr.) 3-18 in. tubes.	24	35
4	33, 34, 21, 22	'08/9	H	185	18.5	6.4	306	4000	26	Y		24	35
4	31, 32, 19, 20	'07/8	T	178.5	18.5	6.1	290	4000	26	Y		24	35
4	29, 30, 17, 18	'07/8	De	180	18	6	272	4000	26	Y		24	35
8	25-28, 13-16	'07/8	W	182	18	6.5	283	4000	26	W		25	35
1	23	'08	Y	177.2	18	5.7	263	4000	26	Y		24	35
2	11, 12	'06	Y	172	18	5.7	253	4000	26	Y		24	35
5	6-10	'06/7	T	166.5	17.5	6.2	244	4000	26	Y		21	35
5	1-5	'06/7	W	175	17.5	5.9	247	4000	26	W		22	35
4	114-117	'08/4	W	165	17.2	8.3	200	2800	25	T		28	32
5	109-118	'02/3	T	165	17.2	8.3	194	2900	25	T	22	32	
4	98, 99, 107, 108	'01	T	160	17	8.3	180	2900	25	T	20	32	
1	97	'93	L					2600	23	..	26	18	
3	94-96	'94	W	140	15.5	6	130	2000	23	..	25	18	
3	91-93	'93/4	T					2400	23	..	25	18	
1	90	'95	Y	140	14.2	5.7	100	1430	22	..	18	18	
2	88, 89	'94	Y	142	14.7	4.5	112	1600	21	..	20	18	
1	81	'85	W	150	17.5	6.5	125		20	..	35	25	
P													
5	82, 83, 85-87	'89	Y	180	13.5	5.5	85	1100	23	..	2-3 pr.; 2-1 pr.; 3-14 in. tubes.	20	19
2	104, 105	'89	W	130	14.5	..	95	1250	20	..		..	18
2	102, 103	'88	T	134.5	14.6	7.1	96	1050	23	..		..	18
1	101	'88	M	130.5	14	..	92	1060	21	..		35	18
1	079	'86	Y	125	13	5.5	75	1000	22	..		20	15
	061, 063-074, 076-078, 030-033	'88	Y	125	13	5.5	75	700	19	..		20	15
20	041-060, 052-055, 037-060, 025-027, 029	'86	T	127.5	12.5	6.2	60	700	21	..		20	15
5	034-038	'86	W	125	14.5	4	60	950	19	..		20	15



NOTES.—No. 81 carries 4-3 pr. Nos. 1-36 have Parsons turbine engines with three screws. They burn oil fuel only; the others burn coal only. No. 93 has twin screws; the rest have one screw. The older boats have been refitted with water-tube boilers. For builders and boilers, see p. 194. (M=M'Arthur, Paisley.)

## SUBMARINES.

	Numbers.	Builder.	Date.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Tubes.	Compt.
	S									
—	<i>Boats</i>	—	pro.	ft.	ft.	tons.		kts.		
1	<i>Swordfish</i>	G	bdg.	..	..	..	..	..	..	..
1	<i>Nautilus</i>	B	bdg.	..	..	..	..	..	..	..
8	W 1-8	E	14/15	..	..	..	..	..	..	..
4	V 1-4	B	bdg.	..	..	..	..	..	..	..
3	S 1-3	G	14/15	..	..	300/345	..	13/9	2	..
1	F 1	C	bdg.	..	..	..	..	..	..	..
3	E 14-18	B	14	..	..	..	..	..	..	..
2	E 12, 13	C	11/13	176	22.5	725/810	1750/600	16/10	4	16
4	E 1, 2, 7, 8	B	11/13	..	..	..	..	..	..	..
6	E 4-6, 9-11	B	11/13	..	..	..	..	..	..	..
2	D 7, 8	C	11	150	22.5	550/600	1200/550	15/10	3	15
3	D 3, 4, 6	B	11	150	22.5	550/600	1200/550	15/10	3	15
2	D 1, 2	E	08/10	150	22.5	550/600	1200/750	15/10	3	15
6	C 33, 34, 17-20	C	08/10	135	13.5	290/321	600/200	14/8.5	2	15
31	C 35-38, 21-32, 12-16, 1-10	B	06/10	135	13.5	290/321	600/200	14/8.5	2	15
10	B 1, 3-11	B	04/06	135	13.5	280/313	600/190	13/8	2	15
8	A 5, 6, 8-13	B	03/07	100	12.7	180/210	500/150	11/5/8	2	12

NOTES.—A, B, and C classes designed by Vickers; D, E, and F, Admiralty designs; Greenock boat, Italian Laurenti design. D 3-S carry 1-12 pr. E and F classes, 2-12 prs. D 3 and later boats have Diesel engines for surface; others petrol. A class have 1 screw, others 2. E class and later boats have 21 in. tubes. Builders: B=Vickers, Barrow; C=Chatham; G=Scott, Greenock; E=Armstrong, Elswick.

## MINE-LAYERS.

W									
INTREPID	Govan,	1891	IPHIGENIA	Govan,	1891				
ANDROMACHE	Devonport,	1890	APOLLO	Devonport,	1891				
LATONA	Barrow,	1890	NAIAD	Barrow,	1890				
THETIS	Glydebank,	1890							

(ex Cruisers)  
L., p.p. 300 ft. B., 43 ft. D. (mean), 16 ft. Disp., 3400 tons.  
*Intrepid* and *Iphigenia* are sheathed and coppered, and have  
B., 43.7 ft. D. (mean), 17.5 ft. Disp., 3600 tons.  
I.H.P. 9000=20/19.7 kts. Coal cap., 400/535 tons.  
Armour: Deck, 2 in. to 1 in.; engine coamings, 5 in.; C.T., 3 in.  
Armament: 4-4.7 in.

Compt. 273.

Narrant General VR Raghayan.

PYSM, UYSM, AVSM (Reid)

Narrant General ML Tuli.

## DEPÔT SHIPS FOR DESTROYERS.

**W WOOLWICH** . . . . . Govan, 25.9.12. Laid down, 1911  
 L., 320 ft. B., 40 ft. D., 14 ft. Disp., 3380 tons.  
 I.H.P. 2600=13.2 kts. Coal cap., 350 tons.  
 Armament: 4-4 in.; 4-3 in. (12 pr.)

**W BLAKE** . . . . . Chatham, 23.11.89. (ex Cruiser)  
**BLLENHEIM** . . . . . Blackwall, 5.7.90. " "  
 L., p.p. 375 ft. B., 65 ft. D. (mean), 25.5 ft. Disp., 9000 tons.  
 I.H.P. 20,000=21 kts. Coal cap., 670 tons, and 470 tons in  
 1 cwt. bags for Destroyers. Max., 1800 tons.  
 Armour: Steel and compound. Deck, 6 in. to 3 in.  
 Armament { 4-6 in.; 4-4 in.; 4-12 pr. } respectively.  
 { 4-6 in.; 2-4 in.; 6-12 pr. }

**W ST. GEORGE** . . . Hull, 23.6.92 (ex Cruiser, sister to *Gibraltar*)  
 L., p.p. 360 ft. B., 60.6 ft. D. (mean), 23.7 ft. Disp., 7700 tons.  
 I.H.P. 12,000=19.5 kts. Coal cap., 850/1260 tons.  
 Armour: Compound. Deck, 5 in. to 1 in.; engine coamings, 6 in.  
 Armament: 4-6 in.; 8-12 pr.

**W LEANDER** . . . . . Glasgow, 1882 (ex Cruiser)  
 L., p.p. 300 ft. D. (mean), 20.5 ft. Disp., 4300 tons.  
 I.H.P. 5000=16.5 kts. Coal cap., 725/1000 tons.  
 Armour: Deck, 1.5 in.  
 Armament: 2-12 pr.; 6-6 pr.  
 (Fitted as Floating Workshop.)

**W TYNE** . . . . . Low Walker, 1878  
 L., 320 ft. B., 34 ft. D. (mean), 18.3 ft. Disp., 3650 tons.  
 I.H.P. 1200=11 kts. Coal cap., 510 tons.  
 Armament: 4-12 pr. (Tender to *Leander*.)

**W HECLA** . . . . . Belfast, 1878  
 L., 391.4 ft. B., 38.6 ft. D., 23 ft. Disp., 6400 tons.  
 I.H.P. 2400=13 kts.  
 Armament: 6-4 in. (Fitted as Floating Workshop.)

**W DILIGENCE** (ex *Tabaristan*). W. Hartlepool, 1903. Bought, 1912  
 L., 358 ft. B., 45 ft. Disp., 7100 tons.  
 I.H.P. 5000.  
 Armament: 8-4 in.



## DEPÔT SHIPS FOR SUBMARINES.

**W MAIDSTONE** . . . . Greenock, 29.11.12. Laid down, 9.1.11  
 L., p.p. 320 ft. ; o.a. 360 ft. B., 45 ft. D., 16 ft. Disp., 3600 tons.  
 I.H.P. 2800=14 kts. Coal cap., 460 tons.

**W ADAMANT** . . . . Birkenhead, 12.6.11. Laid down, 14.1.11  
**AELECTO** . . . . " 29.8.11. " 9.2.11  
 L., p.p. 190 ft. B., 32.5 ft. D., 11 ft. Disp., 935 tons.  
 I.H.P. 1400=14 kts. Coal cap., 180 tons.  
 (Tenders to *Maidstone*.)

**W BONAVENTURE** . . . . Devonport, 2.12.92 (*ex* Cruiser)  
 L., p.p. 320 ft. B., 49.5 ft. D. (mean), 19 ft. Disp., 4360 tons.  
 I.H.P. 9000=19.5 kts. Coal cap., 400/1000 tons.  
 Armour: Steel. Deck, 2 in. to 1 in. ; engine coamings, 5 in.

**W VULCAN** . . . . Portsmouth, 13.6.89. Laid down, 18.6.89  
 L., p.p. 350 ft. B., 58 ft. D. (mean), 23 ft. Disp., 6620 tons.  
 I.H.P. 12,000=20 kts. Coal cap., 1000/1277 tons.  
 Engines: by Humphrys, Tennant, & Co. Boilers, Dürr.  
 Armour: Deck, 5 in. to 2.5 in.

(Fitted as Floating Workshop.)

**W THAMES** . . . . Pembroke, 3.12.85 (*ex* Cruiser)  
**FORTH** . . . . " 23.10.86 "  
 L., p.p. 300 ft. B., 46 ft. D. (mean), 17.7 ft. Disp., 4050 tons.  
 I.H.P. 5700=17.2 kts. Coal cap., 500/900 tons.  
 Armour: Deck, 3 in. to 2 in.  
 Armament: 4-6 pr.

(Fitted as Floating Workshops.)

**W ARROGANT** . . . . Devonport, 26.5.96 (*ex* Cruiser)  
 L., p.p. 320 ft. B., 57.5 ft. D. (mean), 21 ft. Disp., 5750 tons.  
 I.H.P. 10,000=19 kts. Coal cap., 500/1175 tons.  
 Armour: On bows for 40 ft. to main deck, 2 in. ; deck, 3 in. to 1.5 in. ; C.T., 8-7 in.

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**W PACTOLUS** . . . . . Elswick, 1897 (*ex* Cruiser)

L., p.p. 300 ft. B., 36.5 ft. D. (mean), 15 ft. Disp., 2135 tons.  
I.H.P. 7000=20 kts. Coal cap., 250/500 tons.  
Armour: Deck, 2 in.; C.T., 3 in.

**W ROSARIO** . . . . . Sheerness, 1898 (*ex* Sloop)

L., p.p. 180 ft. B., 33 ft. D. (mean), 11.5 ft. Disp., 980 tons.  
I.H.P. 1400=13.2 kts. Coal cap., 130 tons.  
Armament: 4-3 pr.

(At Hong Kong.)

**REPAIR SHIPS.**

**W CYCLOPS** (*ex* *Indiabarah*) . . . . . Sunderland, 1905

L., p.p. 460 ft.; o.a. 475 ft. B., 55 ft. D., 21 ft. Disp., 11,300 tons.  
I.H.P. 3500=13.3 kts. Coal cap., 2000 tons.  
Armament: 10-3 pr. Compt. 300.

(Fitted as Floating Workshop and Distilling Ship.)

**W ASSISTANCE** . . . . . Middlesbrough, 1901

L., 436 ft. B., 53 ft. D., 20 ft. Disp., 9600 tons.  
I.H.P. 4200=13 kts. Coal cap., 1800 tons.  
Armament: 10-3 pr.

(Fitted as Floating Workshop.) Compt. 262.

**W AQUARIUS** (*ex* *Hampstead*) . . . . . Sunderland, 1902

L., 268 ft. B., 37.7 ft. D., 16 ft. Disp., 2800 tons.  
I.H.P. 1100=10.5 kts.

(Fitted as Floating Workshop and Distilling Ship.)

**W RELIANCE** (*ex* *Knight Companion*) . . . . . Bought, 1912

L., 410 ft. B., 59 ft.  
I.H.P. 3000.

**HOSPITAL SHIPS.**

**W MEDIATOR** (*ex* *Heliopolis*) . Glasgow, 1906. Bought, 1912

L., 390 ft. B., 52.7 ft.

## OIL TRANSPORTS.

W BURMA . . . . . Greenock, 1911

Disp., 3445 tons.

I.H.P. 1200=12 kts. Oil cap., 2500 tons.

W PETROLEUM . . . . . Wallsend, 1908

L., 370 ft. B., 48.6 ft. Disp., 9900 tons.

I.H.P. 2000=13 kts.

W KHARKI . . . . . 1899. Bought, 1900

Disp., 1430 tons. I.H.P. 775=13 kts.

W ISLA . . . . . 1907 (ex *Thistle*)

Disp., 980 tons. I.H.P. 650=13 kts.

(Petrol Transport for Submarines.)

W OLYMPIA . . . . . Barrow, bdg.

L., 460 ft. Disp., 8000 tons.

I.H.P. 2500. Diesel engines.

W CAROL and FEROL . . . . . Devonport, 1913-14

W ATTENDANT and SERVITOR . . . Chatham, 1914

W TURMOIL and TREFOIL . . . . . Pembroke, 1914-15

## COLLIER.

W MERCEDES . . . . . 1902

L., 351 ft. B., 50 ft. D., 28 ft. Disp., 9930 tons.

I.H.P. 2350.

## SEAPLANE CARRIER.

W ARK ROYAL . . . . . 1914

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## SLOOPS.

R				Sheathed and coppered
<b>ESPIEGLE</b>	Sheerness, 8.12.00.	Ld. dn. 8.1.00.		
<b>ODIN</b>	" 30.11.01.	" 11.2.01.		
<b>CLIO</b>	" 14.3.03.	" 11.3.02.		
<b>CADMUS</b>	" 29.4.03.	" 11.3.02.		
L., 185 ft. B., 33 ft. D., 11.3 ft. Disp., 1070 tons.				
I.H.P. 1400=13.2 kts. Coal cap., 160 tons.				
Engines: 2 sets 3 expans. <i>Clio</i> by builders; <i>Cadmus</i> by White; others by Wallsend Co. Boilers: first two, Babcock and Wilcox; last two, Niclausse.				
Armament: 6-4 in.; 4-3 pr.; 3 M.			Compt. 113.	

R				Sheathed and
<b>SHEARWATER</b>	Sheerness, 10.2.00.	Ld. dn. 1.2.99.		coppered
<b>VESTAL</b>	" 10.2.00.	" 1.2.99.		"
<b>RINALDO</b>	Birkenhead, 29.5.00.	" 8.11.98.		"
L., 180 ft. B., 33 ft. D. (mean), 11.5 ft. Disp., 980 tons.				
I.H.P. 1400=13.2 kts. Coal cap., 130 tons.				
Engines: 2 sets 3 expans. <i>Shearwater</i> by Thames Ironworks; <i>Vestal</i> by Keyham; <i>Rinaldo</i> by builders. Boilers, Belleville.				
Armament: 4-4 in. ( <i>Shearwater</i> , 6); 4-3 pr.; 2 M.				Compt. 130.
(Vestal, Tender to Excellent. Rinaldo, Tender to Vivid.)				

R				
<b>ALGERINE</b>	Devonport, 6.6.95.	Laid down, 5.7.94		
L., 185 ft. B., 32.5 ft. D. (mean), 11.2 ft. Disp., 1050 tons.				
I.H.P. 1400=13 kts. Coal cap., 160 tons.				
Armament: 6-4 in.; 4-3 pr.; 3 M.			Compt. 106.	

R				Sheathed and coppered
<b>ALERT</b>	Sheerness, 28.12.94.	Ld. dn. 8.12.93.		
<b>TORCH</b>	" 28.12.94.	" 8.12.93.		
L., 180 ft. B., 32.5 ft. D. (mean), 11.5 ft. Disp., 960 tons.				
I.H.P. 1400=13.4 kts. Coal cap., 130 tons.				
Armament: 6-4 in.; 4-3 pr.; 2 M.			Compt. 105.	

R				
<b>WILDFIRE</b>	Portsmouth, 5.5.88.	Laid down, 5.7.87.		Composite
L., 195 ft. B., 28 ft. D. (mean), 11.5 ft. Disp., 1140 tons.				
I.H.P. 2000=14.5 kts. Coal cap., 180 tons.				
Armament: 8-5 in. (old); 3 M.			Compt. 120.	

R				
<b>RACER</b>	Devonport, 1884.			Composite
L., 167 ft. B., 33 ft. D. (mean), 14 ft. Disp., 970 tons.				
I.H.P. 850=10 kts. Coal cap., 150 tons.				
Armament: 2-5 in.			(Attached to R.N. College, Osborne.)	

## DESPATCH VESSEL.

X				
<b>ALACRITY</b>	(ex <i>Surprise</i> )	Jarrow, 1885		
L., 250 ft. B., 32.5 ft. D. (mean), 14 ft. Disp., 1650 tons.				
I.H.P. 3000=17.8 kts. Coal cap., 400 tons.				
Armament: 2-6 pr.			Compt. 86.	

## GUNBOATS—CLASS I.

R **BRAMBLE** . . . . . Liverpool, 1898      **BRITOMART** . . . . . Liverpool, 1899  
**DWARF** . . . . . Govan, 1898      **THISTLE** . . . . . Govan, 1899  
 (Sheathed and coppered.)

L., 180 ft. B., 33 ft. D., 8 ft. Disp., 701 tons.

I.H.P. 1300=13·5 kts. Coal cap., 50 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Armament: 2-4 in.; 4-3 in. (12 pr.); 10 M. Compt. 70.

R **RINGDOVE** . . . . . Devonport, 1889. Composite

L., 165 ft. B., 31 ft. D. (mean), 11·6 ft. Disp., 805 tons.

I.H.P. 1200=13 kts. Coal cap., 105 tons.

Engines: 1 set horiz. 3 expans. Boilers, cylindrical.

Armament: 6-4 in.; 2-3 pr.; 2 M. Compt. 74.

GUNBOATS—CLASS III.<sup>1</sup>

Name. R-V	Built.	Rig.	Length.	Beam.	Draught.	Disp.	I.H.P. nat.	Speed.	Coal cap.	Armament.	Compt.
			ft.	ft.	ft.			kts.	tons.		
Blazer . . .	'70	1 sig. mast. 1 funnel.	85	26	6.4	251	110	8.0	20/35	{ 2-12 pr. ; 2-6 pr. 2-6 pr. 1-6 in. ; 1-4.7 in. ; 1-12 pr. ; 2-3 pr. 1-4.7 in. ; 1-4 in. }	25
Bloodhound	'71										
Bustard . .	'71										
Kite . . .	'71	Barquentine. 1 funnel.	110	34	5.8	363	200	8.5	55	{ Unarmed 1-9 pr. }	40
Spey . . .	'77										
Tay . . .	'76										
Plucky . .	'70	1 fun. 2 masts.	80	25	5.9	{ 195 508 800 }	{ 90 380 .. }	7	20	{ Unarmed 1-7.5 in. ; 1-4 in. 1-9.2 in. }	25
Excellent .	'70										
Drudge . .	'70										

<sup>1</sup> Used chiefly for gunnery experiments.

<sup>2</sup> Originally 1-10 in. M.; but *Blazer* and *Bustard* each 1-12 pr. Q.; *Kite*, 1-6 in. Q., 1-4 in. E.; *Insolent*, *Ant*, *Bonetta*, and *Plucky*, no guns; *Bloodhound*, 2 torp. tubes only.

Lieutenant General VR Raghavan,

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Lieutenant General ML Tuli,

## RIVER MONITORS.

V

HUMBER (ex *Javary*) . . . . . Barrow, 17.6.13MERSEY (ex *Madeira*) . . . . . „ 30.9.13SEVERN (ex *Solimoes*) . . . . . „ 19.8.13

L., 265 ft. B., 50 ft. D. (mean), 5 ft. Disp., 1200 tons.

I.H.P. = 11 kts. Boilers, Yarrow.

Armament: 3-6 in.; 4-3 pr.; 6 M.

(Taken over from Brazil, 1914.)

## RIVER GUNBOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.	Coal.	Compt.
V											
Kingfisher .	bdg.	Y	ft.	ft.	ft.	tns.		kts.		tns.	
Rail . . .	bdg.	Y	..	..	..	..	..	..	..	..	..
Widgeon .	'04	Y	160	24.5	2.4	195	800	13	..	..	..
Teal . . .	'01	Y	160	24.5	2.2	180	800	13	2-6 pr.; 4 M.	..	..
Moorhen .	'01	Y	160	24.5	2.2	180	800	13	..	..	..
Kinsha . .	'00	Da	183	33	7	616	1200	14	2-12 pr.; 8 M.	60	58
Nightingale	'97	Y	100	20	1.7	85	240	9	2-6 pr.; 4 M.	..	..
Robin . . .	'97	Y								..	..
Sandpiper .	'97	Y								..	..
Snipe . . .	'97	Y								..	..
Woodcock .	'97	T	145	24	2	150	550	13	2-6 pr.; 4 M.	..	..
Woodlark .	'97	T	145	24	2	150	550	13		..	..

NOTES.—*Kinsha*, paddle steamer; others, twin screw (tunnel). All are in China. Builders: De=Denny; Y=Yarrow; T=Thornycroft. All save *Kinsha* are built in watertight sections.

## ROYAL NAVAL RESERVE MERCHANT CRUISERS.

**T LUSITANIA**. Clydebank, 1906. 31,550 tons gross. Cunard Co.  
**MAURETANIA** Newcastle, 1906. 31,937 " "  
 L., 760 ft. B., 87.8 ft.  
 I.H.P. 67,000=25 kts. (sea speed). Parsons turbine engines.  
 Armament (war-time): 12-6 in., etc. Two masts, four funnels.  
 There are, of course, many other ships which could be used as armed cruisers, but only these two are subject to any special arrangement.

## YACHTS.

**X VICTORIA AND ALBERT**. Pembroke, 9.5.99. Laid down, 15.12.97  
 L., p.p. 380 ft.; o.a. 439 ft. B., 50 ft. D. (mean), 18 ft.  
 Disp., 4700 tons.  
 I.H.P. 11,000=20 kts. Coal cap., 350/2000 tons.  
 Engines: 2 sets 3 expans. by Humphrys & Tennant. Boilers,  
 Belleville. Compt. 336.  
 (Royal Yacht.)

**X ALEXANDRA** . . . Glasgow (Inglis), 30.5.07. Laid down, 9.4.06  
 L., p.p. 275 ft.; o.a. 300 ft. B., 40 ft. D. (mean), 12.5 ft.  
 Disp., 2050 tons.  
 I.H.P. 4500=18.25 kts. (Trials, 19.1). Coal cap., 270 tons.  
 Engines: Parsons turbines (3 shafts) by Parsons Co. Boilers,  
 Yarrow. Compt. 173.  
 (Royal Yacht.)

**X ENCHANTRESS** . . . . . Belfast, 7.11.03  
 L., 320 ft. B., 40 ft. D. (mean), 15 ft. Disp., 3470 tons.  
 I.H.P. 6400=18 kts. Coal cap., 350 tons.  
 Armament: 4-3 pr.  
 (Admiralty Yacht.)

## SURVEYING SHIPS.

**X ENDEAVOUR** . . . . . Fairfield, 1912. Laid down, 1911  
 L., 200 ft. B., 34 ft. D., 11.6 ft. Disp., 1280 tons.  
 I.H.P. 1100=12 kts. Coal cap., 200 tons.  
 Armament: 1-3 pr.  
 Compt. 136.

Lieutenant General VR Raghavan,

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X **ESTHER** . . . . . Aberdeen, 22.11.11  
**DAISY** . . . . . " "

Length, 125 ft. Disp., 220 tons.

X  
**MERLIN** . . . Sheerness, 30.11.01 (ex sloop). Sheathed and coppered  
**FANTÔME** . . . " 23.3.01. " "

L., 185 ft. B., 33 ft. D., 11 ft. Disp., 1070 tons.  
 I.H.P. 1400=13.2 kts. Coal cap., 160 tons. Boilers, Belleville.  
 Armament: 2—3 pr.; 2 M.

X  
**MUTINE** . . . Birkenhead, 1.3.00 (ex sloop). Sheathed and coppered  
 L., 180 ft. B., 33 ft. D., 11.5 ft. Disp., 980 tons.  
 I.H.P. 1400=13.2 kts. Coal cap., 180 tons. Boilers, Belleville.  
 Armament: 2 M.

X **RESEARCH** . . . Chatham, 1.12.88 (ex *Investigation*)  
 L., 155 ft. B., 24 ft. D. (mean), 8.5 ft. Disp., 520 tons.  
 I.H.P. 450=9.5 kts. Coal cap., 70 tons. Paddle steamer.  
 Compt. 57.

X **TRITON** . . . . . Poplar, 1882. Composite-built  
 L., 15 ft. B., 23 ft. D. (mean), 7.2 ft. Disp., 410 tons.  
 I.H.P. 350=9.7 kts. Coal cap., 55 tons. Paddle steamer.  
 Compt. 45.

X **SEALARK** . Greenock, 1878. Bought, 1903 (ex yacht *Consuelo*)  
 L., 180 ft. B., 29 ft. D., 15.5 ft. Disp., 900 tons.  
 I.H.P. 500=11 kts. Single screw.

X **HEARTY** . . . . . Dundee, 1885  
 L., 212 ft. B., 30 ft. D., 13.5 ft. Disp., 1300 tons.  
 I.H.P. 2100=14 kts.



206 GREAT BRITAIN: COASTGUARD CRUISERS  
COASTGUARD CRUISERS.

Name.	Date.	Material.	Length.	Beam.	Draught.	I.H.P.	Disp.
<b>X</b>							
Safeguard	1914	..	feet.	feet.	feet.		tons.
Steadfast	bdg.	..	..	..	..	..	..
Watchful <sup>1</sup>	1911	..	145	25	12	800	612
Squirrel	1905	..	103	21	7½	300	230
Argus	1905	S	130	23	9½	650	380
Thrush	1889	C	165	31	11.7	1200	820
Julia (ex Maretanzen)	1897	S	120	20½	8½	655	310

<sup>1</sup> By Hall, Russel, & Co., Aberdeen. Speed, 12 kts. Armament: 1-3 pr.

COASTGUARD STATION TENDERS.

<b>X</b>		Station.	Tons (B.M.).
Snipe	..	W. Mersea	20
Manoa	..	Weymouth	8
Topsy	..	Sally	7

NAVAL ORDNANCE STORE STEAMERS, TUGS, OR  
CARGO BOATS.

<b>X</b>	Name.	I.H.P.	Tonnage.	Description.	Station.
	Bison	500	760	Store ship	Woolwich
	Crocus	100	45	Tug and cargo boat	Portsmouth
	Edith	200	140	Tug and cargo boat	Chatham
	Elephant	80	56	Tug and cargo boat	Chatham
	Growler	275	235	Store ship	Portsmouth
	Isleford	..	414	..	Woolwich
	Lucy	200	140	Tug and cargo boat	Devonport
	Mistletoe (ex Laurel)	65	30	Tug and cargo boat	Portsmouth
	Marchwood	200	140	Tug and cargo boat	Portsmouth
	Merlin	60	24	Tug and cargo boat	Plymouth
	Upnor	300	600	Store ship	Woolwich

TANKS AND TUGS.

Name.	Date.	Where Built.	Material.	Screws.	Length.	Beam.	Draught.	Disp.	I.H.P.	Station.
<b>X</b>										
Alligator	'85	Bought, '96	I	2	ft. 160	ft. 24	ft. 13	tons. 630	1000	Pembroke
Atlas	'09	Chatham	S	2	145	27.4	11	615	1400	Hong-Kong
Hesper	'08	Hong-Kong	S	1	115	21	8.7	390	300	Wei-hai-wei

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## TANKS.

Name. X	Date.	Where Built.	Material.	Screws.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tons	I.H.P.	Station.
Aid	'01	Plymouth	S	1	119	21	11	390	300	Gosport
Asp	'90	Blackwall	S	1	115	21	10	330	300	Sheerness
Blossom	'01	Paisley	S	1	115	21	8.7	390	300	Gibraltar
Cherub	'02	Hong-Kong	S	1	115	21	9	390	300	Hong-Kong
Chester	'61	Birkenhead	S	1	104.6	18.2	6	234	90	Malta
Chub	'97	Renfrew	S	1	115	21	7	340	300	Cape of G'd Hope
Clinker	'01	Plymouth	S	1	119.5	21	11	390	300	Sheerness
Greole	'02	Paisley	S	1	115	21	8	390	300	Bermuda
Despatch	'69	Greenwich	I	1	115	22	8	405	300	Devonport
Echo	'73	Greenwich	I	1	115	22	8	150	100	Gibraltar
Elizabeth	'03	Paisley	I	1	115	22	8	370	200	Portsmouth
Faithful	'03	Paisley	...	1	115	...	...	395	300	Gosport
Helpful	'03	Paisley	...	1	115	...	...	395	300	Malta
Minx	'00	Falmouth	...	1	115	21	7	390	300	Devonport
Monkey	'96	Renfrew	S	1	115	21	7	330	300	Malta
Pelter	'03	Paisley	...	1	115	21	7	405	300	Portsmouth
Provider	'03	Paisley	...	1	115	21	7	395	300	Gosport
Ready	'72	(ex gunboat)	Comp.	1	155	25	8.7	610	550	Bermuda
Supply	'14	Falmouth	S	2	115	21	7	405	300	Plymouth
Tortoise	'96	Renfrew	S	...	115	21	7	330	300	Portland
Urgent.	big	Falmouth	S	1	...	...	...	425	160	Sheerness

## TUGS.

Name.	Date.	Where Built.	Material.	Screws.	Length.	Beam.	Draught.	Disp.	I.H.P.	Station.
Advice	1899	Lond. & Glas. Co.	S & I	Pad.	144	27.2	10.7	700	1250	Chatham
Etina	1883	Birkenhead	S & I	Pad.	128	25	10.7	530	350	Devonport
Alliance.	1910	Chatham	S	1	145	27.4	11	615	1400	Sheerness
Assurance	1900	Paisley	S	2	110	22	8	300	450	Devonport
Bustler	1880	Purchased, 1896	S	Pad.	122	20	...	346	750	Gibraltar
Camel	1914	Jarrow	S	...	...	...	...	...	...	...
Carron	...	...	S	Pad.	...	...	...	450	500	Chatham
Constance	...	...	I	2	...	...	...	270	350	Devonport
Cracker.	1899	Lond. & Glas. Co.	S	Pad.	144	27.2	10.7	700	1250	Malta
Crocodile	1896	Purchased, 1896	S	2	135	24	12	440	630	Gibraltar
Diligent.	1898	Glasgow	S	Pad.	144	27.2	10.7	695	1250	Sheerness
Dromedary	1894	Glasgow	S	Pad.	144	27.2	10.7	680	1250	Portsmouth
Egerton.	...	...	S	1	...	...	...	237	630	Portland
Emily	...	...	S	...	...	...	...	140	182	Malta
Energetic	1902	John Brown & Co.	S	Pad.	144	27.3	10.8	700	1250	Gibraltar
Enterprise	1900	Paisley	S	2	110	22	...	300	450	Portsmouth
Escort	1896	Liverpool	S	Pad.	144	27.2	10.7	685	1250	Devonport
Firm	1910	Chatham	S	Pad.	145	28	10.8	690	1250	Dover
Fortitude (ex Neptune)	1911	...	S	2	...	...	...	470	1200	Devonport
Gazelle	...	...	S	1	...	...	...	115	190	Chatham
Grappler	1908	Chatham	S	Pad.	145	28	10.8	690	1250	Chatham

Nephew General VR Raghavan,  
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Nephew General ML Tuli

Grinder .	1868	Coves	W	120	25	10.5	505	500	Sheerness
Halesport .	1910	Hull	S	145	28	10.8	690	1250	Haulbowline
Herculanum	1905	Leith	S	101	22	11	378	890	Dover
Industrious .	1902	Barclay, Curle & Co.	S	144	27.3	10.8	700	1250	Devonport
Malta .	1875	Birkenhead	I	128	25	10.8	530	850	Portsmouth
Mudlark	...	...	...	...	...	...	32	...	Works Dept.
Perseverance	1896	Purchased	S & I	1	...	...	530	850	Chatham
(ex Meteor)				Pad.	...				
Pilot	1909	Chatham	S	145	27.4	11	615	1400	Portsmouth
Prompt .	1867	Glasgow	I	90	17	5.8	140	170	Malta
Frudent .	1905	Paisley	S	125	23	7.4	325	620	Chatham
Rambler	1909	Clydebank	S	145	28	10.8	690	1250	Dover
Recovery <sup>1</sup>	1907	Paisley	S	135	26.6	10.9	735	500	Gibraltarr
Restless .	1902	Day & Summers	S	134	27.3	10.8	700	1250	Malta
Robust <sup>1</sup> .	1907	Paisley	S	145	28	10.8	690	1250	Sheerness
Rover .	1908	Chatham	S	145	27.4	11	620	1400	Chatham
slampon	1877	Birkenhead	I	128	25	10.8	530	850	Malta
Security (ex	...	...	S	1	...	...	350	660	Cromarty
Diligence)									
Sprite	bdg.	Southampton	...	145	28	10.7	690	1250	Sheerness
Strenuous	1912	Southampton	S	145	28	10.7	690	1250	Portsmouth
Sturdy .	1912	Southampton	S	...	...	...	144	300	Gibraltarr
Swallow (ex	...	...	...	...	...	...	...	...	(Wks. Dept.)
General Skinner)									
Terrier .	1866	Jarrow	I	130	23	10.5	570	550	Devonport
Trusty .	1900	Paisley	S	110	22	8	300	450	Sheerness
Tyrian (ex			...	...	...	...	...	...	...
Adventure)			...	...	...	...	...	...	...
Veteran .	bdg.	Southampton	...	144	27.2	10.7	700	1250	Portsmouth
Volcano .	1899	Glasgow	S	...	...	...	...	...	...

1 Mooring vessel and tug.

## MISCELLANEOUS.

X Z	Name.	Date.	Where Built.	Material.	Stowage.	Length.	Beam.	Draught.	Disp.	I.H.P.	Service.
	Bee (ex Thames)	1880	Deptford	I	1	ft. 117	ft. 19	ft. 6.3	tns. 320	120	Lighter
	Harlequin (ex Strathmore)	1897	Port Glasgow	..	P	200	24	7	316	1100	Communication Service
	Industry	1901	Glasgow	I	1	195	30	14.3	1000	750	Store ship
	Mercury II.	1906	Poplar	S	8	60	9	..	8	300	Motor boat
	Monarch	1888	Port Glasgow	S	..	240	33	20	2385	1040	Telegraph ship
	Nimble (ex Lady Margaret)	1895	Dumbarton	S	P	210	25	8	369	..	Communication Service
	Pickle (ex scr. g.b.)	1872	..	I	..	85	26	6.4	254	..	Lighter
	Resource	1910	Paisley	I	..	135	26.6	11.0	735	500	Mooring steamer
	Sabrina (ex scr. g.b.)	1876	..	I	2	110	34	5.8	363	200	Diving vessels, Devon-
	Spey (ex scr. g.b.)	1876	..	I	2	110	34	5.8	363	200	port and Sheerness
	Snake (ex scr. g.b.)	1872	..	I	..	85	26	6.4	254	..	Lighter
	Thistle	..	..	S	2	..	..	..	160	..	Ferry boat
	Tickler	1879	Pembroke	S	2	85	26	6.6	265	110	Lighter
	Wanderer (ex Liberty, ex Roslin Castle)	1906	Leith	S	2	185	26	8	589	1600	Communication Service
	Yard Craft, No. 11.	1907	Plymouth	S	..	95	25	5	250	..	Mooring lighters
	Yard Craft, No. 97.	1911	Wyvenhoe	S	..	95	26.6	..	..	..	Mooring and salvage
	Yard Craft, No. 94.	1913	Chatham	S	..	115	31	8.6	790	..	lighters
	Yard Craft, No. 95.	1911	Barrow	S	..	160	..	..	..	..	Dredger (suction cutter hopper)
	Y vessel	..	Renfrew	..	..	..	..	..	2000	..	
	I vessel	1910	..	..	..	..	..	..	..	..	

Lieutenant General VR Raghavan,  
PYSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## SPECIAL SERVICE VESSELS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Station or Parent Ship.
<b>X</b>								
		ft.	ft.	ft.	tns.		kts.	
Driver . . . . .	..	..	..	..	..	..	..	} Mine sweepers { Defiance Actæon Vernon "
Rose . . . . .	..	..	..	..	..	..	..	
Seaflower . . . . .	..	..	..	..	550	400	..	
Seamew . . . . .	..	..	..	..	550	400	..	
Sparrow . . . . .	..	..	..	..	550	400	..	
Spider . . . . .	'08	..	..	..	500	400	..	
Adder . . . . .	'86	95	17.5	8.2	225	250	10.5	Dover
Adelaide . . . . .	..	50	13	5.6	230	230	8	Chatham
Ant . . . . .	..	..	..	..	..	700	..	Portsmouth
Biter . . . . .	'89	80	17	9	210	200	9	Actæon
Bouncer . . . . .	'86	77	15.5	8.1	210	200	8.5	Mercury
Elf (bought) . . . . .	'11	..	..	..	114	300	..	Vivid
Elfin . . . . .	'87	98	17.5	10.2	225	280	10.2	Thames
Esk . . . . .	'89	80	17	9	200	200	9	Chatham
Firebrand . . . . .	'86	95	17.5	10.2	280	280	10.5	Endymion
Gleaner . . . . .	'01	90	19	9.5	220	320	9.5	Excellent
Hasty ( <i>ex</i> Linnet) . . . . .	'91	80	18	9.7	300	300	10	Defiance
Heron . . . . .	'85	77	15.5	8.7	200	200	9	Defiance
Imogene . . . . .	'82	159.5	24.2	10.7	460	390	11	Mediterranean
Magnet . . . . .	'83	136	22.6	9.3	430	650	12.3	Victory
Nettle . . . . .	'02	85	18	10.1	230	324	9.5	Dolphin
Pelican . . . . .	'86	77	..	8.1	200	200	8.5	Malta
Pigmy . . . . .	'97	80	18	10.5	..	335	10	Forth
Red wing . . . . .	'93	93.2	18	10.7	220	320	10	Vernon
Seahorse . . . . .	'80	160	26	10.7	670	1100	12.6	Portsmouth
Skylark . . . . .	'89	80	17	9	200	200	9	Vernon
Sphinx . . . . .	'82	200	32	10.3	1130	1100	12.5	East Indies
Starling . . . . .	..	50	13	5.7	230	200	8	Actæon
Stormcock . . . . .	'77	155	25	9.5	580	1000	12	Haulbowline
Traveller . . . . .	'83	161	24.6	11.3	700	1100	12	Vivid
Vesuvius . . . . .	'74	..	..	..	245	350	9.7	Vernon
Weazel . . . . .	'89	80	17	9	200	200	9	Actæon

*Sphinx* carries 1-6 in. and 6-4 in. guns.  
*Vesuvius* carries 2 torpedo tubes.

## WAR DEPARTMENT VESSELS.

*Particulars supplied by the courtesy of the Secretary for War.*  
 (NOTE.—In 2nd col., Sc. = screw steamer; S. = sailing; H. = hoy;  
 B. = tow barge.)

Name. X Z	Nature of Vessel.	Built.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tons	I.H.P.	W/kg spd. kts	Station.
Abercorn . . . .	Sc.	1903	85	17.2	9	145	250	9.5	Lough Swilly
Alice . . . . .	B.	1900	70	17.5	6	140	...	...	Woolwich
Arctic . . . . .	B.	1900	70	18	6.5	...	...	...	Shoeburyness
Australia . . . .	B.	1906	84	22	7.7	...	...	...	Gibraltar
Cambridge . . . .	Sc.	1892	75	17	8.5	130	110	8.5	Cork
Carrigaline . . . .	Sc.	1892	48	12	5.7	35	60	8	Falmouth
Clyde . . . . .	S.	...	46.2	13	7.5	40	...	...	Bermuda
Courier . . . . .	Sc.	1889	52	11	5.7	23	75	10	Devonport
Crystal . . . . .	Sc.	1902	50	13	6.1	42	85	8.5	Isle of Wight
Darenth . . . . .	B.	1880	65	16	5	80	...	...	Woolwich
Dorothy . . . . .	B.	1907	60	17	6.5	118	...	...	Cork
Dorothy . . . . .	S.	1887	52.5	11.7	5.7	...	...	...	Jamaica
Drake . . . . .	Sc.	1891	87	16	8	100	150	9	Pembroke Dk.
Eagle . . . . .	Sc.	1895	60	12.5	7	55	80	8	Devonport
Emerald . . . . .	Sc.	1899	50	13	5.7	40	70	8	Woolwich
Empress . . . . .	B.	1892	61	11	5	...	...	...	Singapore
Endeavour . . . .	Sc.	1899	52	11	5.7	33	75	9	Woolwich
Forth . . . . .	B.	1893	62.5	16.5	5.8	...	...	...	Shoeburyness
Fusee . . . . .	Sc.	1902	69.5	13	6.9	62	80	8	Weymouth
Gog . . . . .	B.	1886	105	30	7.2	400	...	...	Woolwich
Gordon . . . . .	Sc.	1907	71.6	15.5	7.9	106	200	9.5	Sheerness
Haldane . . . . .	Sc.	1907	78.5	16.7	9.2	125	220	9.5	Portsmouth
Haslar . . . . .	Sc.	1903	97.7	18.2	10.3	175	320	10.2	Pembroke Dk.
Havelock . . . . .	S.	...	39.6	12	7.1	30	...	...	Bermuda
Henry . . . . .	S.	1872	77.7	19.3	6	140	...	...	Chatham
Hercules . . . . .	Sc.	1898	85	17.1	10.2	170	350	10	Hong-Kong
Hurst . . . . .	Sc.	1904	68	12	6.5	39	250	12	Portsmouth
Ida . . . . .	Sc.	1887	57.5	10	4.7	30	50	8	Devonport
Jasper . . . . .	Sc.	1902	50	13	5.7	38	80	8.5	Malta
John Abye . . . .	S.	1888	86	20	6.9	185	...	...	Portsmouth
Joule . . . . .	Sc.	1890	48	11.2	5.7	35	60	9	Devonport
Jubilee . . . . .	Sc.	1887	65	12	6	60	75	10	Hong-Kong
Katharine . . . .	Sc.	1882	116	20	7.9	250	200	8.5	Woolwich
Ladysmith . . . .	Sc.	1902	58.5	12.5	6.9	52	90	9	Cork
Langdon . . . . .	Sc.	1902	81	16.5	8.7	127	250	9.5	Dover
Lansdowne . . . .	Sc.	1896	120	20	11.5	350	600	10	Portsmouth
Lighter (unnamed)	B.	1903	75	25	6.5	130	...	...	Hong-Kong
Lord Kitchener . .	Sc.	1899	50	9.5	5.7	20	65	9	Bermuda
Lord Vivian . . . .	B.	1862	71.4	18	8.6	140	...	...	Woolwich

Lieutenant General VR Raghavan.

PMSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

Name.	Nature of Vessel.	Built.	Length.	Beam.	Draught.	Disp.	I.H.P.	W't g spd.	Station.
X Z			ft.	ft.	ft.	tns		kts	
Lord Wolseley . .	Sc.	1896	117	22	11.7	500	375	8.5	Woolwich
Louise . . . .	Sc.	1904	87	17.5	9.7	145	300	9.5	Bermuda
Mafeking . . .	Sc.	1902	58.5	12.5	6.9	52	90	9	Portsmouth
Magog . . . .	B.	1900	90	30	7	260	...	...	Woolwich
Marquess of Hartington	Sc.	1886	140	24	13.5	670	230	9	Woolwich
May . . . . .	Sc.	1902	81	16.5	8.7	125	250	9.5	Gibraltar
Meteor . . . .	Sc.	1894	75	15	8.2	78	160	10	Jamaica
Moonstone . .	Sc.	1904	87	17.5	9.7	145	230	9.5	Singapore
Moore . . . .	Sc.	1904	97	18.7	10.2	185	370	10	Portsmouth
Omphale . . .	Sc.	1905	87	17.5	9.7	140	230	9.5	Hong-Kong
Onyx . . . . .	Sc.	1902	50	13	5.7	38	80	8.5	Mauritius
Osprey . . . .	Sc.	1895	110	20	11.5	238	500	10	Devonport
Othello . . . .	B.	1892	64.5	13.5	5	60	...	...	Devonport
Palliser . . .	Sc.	1899	63	15	7	65	150	9.5	Shoeburyness
Playfair . . .	Sc.	1904	97	18.7	10.2	185	350	10	Leith
Quadroon . .	Sc.	1898	57	13	5.7	35	60	9	Gibraltar
Rodney . . . .	Sc.	1902	50	10.2	5	25	60	9	Jamaica
Russell . . . .	Sc.	1902	75	16.5	8.5	112	200	9.5	Isle of Wight
Satellite . . .	Sc.	1894	65	14.5	7.7	83	140	9.5	Harwich
Sapphire . . .	Sc.	1910	50	12	5.5	...	...	...	Singapore
Scow . . . . .	B.	1896	48.5	25	4	...	...	...	Lough Swilly
Seagull II. . .	S.	1901	43	13	5	45	...	...	Pembroke Dk.
Shamrock . . .	B.	1897	60	17	6	105	...	...	Cork
Sir E. Markham .	Sc.	1898	85	17.1	10.2	170	350	10	Malta
Sir E. Wood . .	Sc.	1896	160	24	14	850	450	9	Woolwich
Sir F. Walker .	Sc.	1903	93.5	18.7	10	175	320	10	Devonport
Sir G. Murray .	B.	1900	70	17.5	6	140	...	...	Portsmouth
Sir G. White . .	Sc.	1900	57	13	5.7	35	70	9	Portsmouth
Sir H. Alderson .	Sc.	1898	90	18	8	157	350	10	Sheerness
Sir R. Buller .	Sc.	1895	130	23	12.5	570	400	9.5	Woolwich
Sir R. Hay . . .	Sc.	1896	100	20	10	280	200	7.5	Portsmouth
Sir S. Northcote .	S.	1889	86	20	6.9	175	...	...	Portsmouth
Sir W. Nicholson	B.	1907	60	17	6.5	118	...	...	Portsmouth
Somers . . . .	Sc.	1904	87	17.5	9.7	150	270	9.5	Jamaica
Stewart . . . .	Sc.	1902	75	16.5	8.5	112	200	9.5	Weymouth
Swale . . . . .	Sc.	1891	48	12	5.7	35	70	8	Sheerness
Thalia . . . .	H.	...	212	40	...	...	...	...	Woolwich
Tommy Atkins .	Sc.	1898	75	15	8	78	120	10	Hong-Kong
White Rose . .	Sc.	1902	41	8.5	5.1	12	30	8	Woolwich
Wyndham . . .	Sc.	1903	80	17	8.5	140	200	9	Cork
Oil Motor Launch	Sc.	1902	30	7	3.2	3	...	0	Shoeburyness

And 11 other Lighters (unnamed) and 3 Tow barges,  
Tongkang I., II., and III.



## STATIONARY SHIPS OF THE ROYAL NAVY.

Ship. Z	Description.	Service.	Port.
Actæon ( <i>ex</i> Vernon)	<i>ex</i> fourth rate	Torpedo school ship	Sheerness
Actæon II. .	<i>ex</i> corvette <i>Dido</i>	Torpedo school ship	Sheerness
Calcutta ( <i>ex</i> Hercules)	<i>ex</i> battleship	Floating barracks	Gibraltar
Calliope .	<i>ex</i> 2nd class cruiser	Drill ship R.N.V.R.	Newcastle-on-Tyne
Calypso .	<i>ex</i> 2nd class cruiser	Drill ship R.N.R.	Newfoundland
Challenger .	<i>ex</i> corvette, 21	Harbour service	Chatham
Circe . .	<i>ex</i> frigate, 42	Tender to <i>Impregnable</i>	Devonport
Cleopatra .	<i>ex</i> 3rd class cruiser	Tender to <i>Defiance</i>	Devonport
Columbine ( <i>ex</i> Mercury)	<i>ex</i> cruiser	Hulk for accommodation of submarine boats' crews	Refitting
Cormorant .	<i>ex</i> composite sloop	Flagship	Gibraltar
Defiance .	<i>ex</i> third rate, 91	Torpedo school ship	Devonport
Eagle . .	<i>ex</i> third rate, 74	Drill ship R.N.V.R.	Liverpool
Egmont ( <i>ex</i> Hibernia, <i>ex</i> Achilles)	<i>ex</i> armoured cruiser	..	..
Falcon . .	<i>ex</i> comp. gun vessel	Attached to torpedo range	Devonport
Fisgard III.	<i>ex</i> 3rd rate <i>Hindustan</i>	} Training ships for boy artificers	} Portsmouth
Fisgard IV.	<i>ex</i> battleship <i>Sultan</i>		

Lieutenant General VR Raghavan,  
PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## Stationary Ships—continued.

Ship. Z	Description.	Service.	Port.
Flamingo .	<i>ex</i> gun vessel	Lent to the Port Sanitary Authority	Plymouth
Fly . .	cutter	Pilot hulk	Devonport
Gadfly .	<i>ex</i> 3rd class gun-boat	Haulabout	Cape of Good Hope
Ganges .	<i>ex</i> armoured cruiser <i>Ménotaur</i>	Training ship, boys	Harwich
Helena .	<i>ex</i> brig, 16	Police ship	Chatham
Impregnable	<i>ex</i> Bulwark	Training ships for boys	Devonport
Impregnable II. ( <i>ex</i> Inconstant)	<i>ex</i> 2nd class cruiser		
Impregnable III.	<i>ex</i> Emerald, <i>ex</i> Black Prince		
Indus I. ( <i>ex</i> Defence)	<i>ex</i> battleship	Training ships for mechanicians	Devonport
Indus II. ( <i>ex</i> Téméraire)	<i>ex</i> battleship		
Indus III. ( <i>ex</i> Bellerophon)	<i>ex</i> battleship		
Indus IV. ( <i>ex</i> Tenedos I.)	<i>ex</i> battleship <i>Triumph</i>		
Medusa .	<i>ex</i> cruiser	Calibrating	Bantry
Mercury .	<i>ex</i> cruiser	....	Rosyth

## Stationary Ships—continued.

Ship. Z	Description.	Service.	Port.
Pembroke .	<i>ex</i> gunboat <i>Trent</i>	Flagship	Chatham
President .	<i>ex</i> sloop <i>Buzzard</i>	Drill ship R.N.V.R., etc.	Blackfriars
Rapid .	<i>ex</i> 3rd class cruiser	Dockyard service	Gibraltar
Satellite .	<i>ex</i> cruiser	Drill ship R.N.V.R.	N. Shields
Spartan .	<i>ex</i> cruiser	Tender to <i>Defiance</i>	Devonport
Swinger .	<i>ex</i> gunboat	Attached to <i>Im- pregnable</i>	Devonport
Terror <sup>1</sup> ( <i>ex</i> Malabar)	<i>ex</i> Indian troopship	Receiving ship	Bermuda
Thalia .	<i>ex</i> troopship	Store hulk	Cromarty
Unicorn .	<i>ex</i> frigate, 42	Drill ship R.N.V.R.	Clyde
Valiant .	<i>ex</i> screw iron battle- ship	Storeship for de- stroyers and tor- pedo boats	Devonport
Vernon .	<i>ex</i> <i>Donegal</i> , 100	} Torpedo school ships }	Portsmouth
Vernon II. ( <i>ex</i> Marlborough)	<i>ex</i> first rate, 131		
Vernon III. ( <i>ex</i> Warrior)	<i>ex</i> armoured cruiser		
Victory .	<i>ex</i> first rate, 100	Flagship	Portsmouth
Wivern .	<i>ex</i> coast defence ship	Distilling ship and workshop	Hong-Kong

<sup>1</sup> Disp., 6211 tons. I.H.P. 4000=13 kts. To be kept ready for steaming on emergency.

Lieutenant General VR Raghavan,  
PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,

## OLD VESSELS USED AS COAL DEPÔTS, ETC.

Name.	Description.	Tons.	Built.	Port.
<b>Z</b>				
Acheron .	<i>ex</i> armoured cruiser	10,600	1865	Sheerness
C.109 ( <i>ex</i> Agincourt)	<i>ex</i> armoured cruiser	10,600	1865	Sheerness
Diligence .	<i>ex</i> transport	567	..	Devonport
Elk .	<i>ex</i> comp. gunboat	603	1868	Sheerness
Espoir .	<i>ex</i> comp. gunboat	465	1880	Devonport
Favourite .	<i>ex</i> sloop	481	1829	Devonport
Fly .	<i>ex</i> sloop	585	1731	Devonport
Forester .	<i>ex</i> gun vessel	455	1877	Portsmouth
Forward .	<i>ex</i> gun vessel	455	1877	Bermuda
Foxhound .	<i>ex</i> comp. gunboat	455	..	Devonport
Garnet .	<i>ex</i> 3rd class cruiser	2,120	1877	Devonport
Goshawk .	<i>ex</i> comp. gunboat	430	1872	Devonport
Himalaya .	<i>ex</i> troopship	4,690	1853	Devonport
Jumna .	<i>ex</i> troopship	6,211	1866	Sheerness
Minstrel .	<i>ex</i> gunboat	336	..	Bermuda
Orestes .	<i>ex</i> sloop	566	..	Portsmouth
Ruby .	<i>ex</i> 3rd class cruiser	2,120	1876	Portsmouth
Shah .	<i>ex</i> screw iron frigate	6,250	1873	Bermuda
Snapper .	<i>ex</i> gunboat	284	1856	Portsmouth
Swan .	<i>ex</i> gunboat	284	1856	Portsmouth
C.115 ( <i>ex</i> Tourmaline)	<i>ex</i> 3rd class cruiser	2,120	1875	Chatham

**Z**

Coal Lighters, Mooring Lighters, etc. etc. At the home ports, and at Malta, Halifax, Trincomalee, Jamaica, Bombay, Ascension, the Cape, Hong-Kong, etc. Many new coaling lighters, mooring lighters, etc., have been distributed to the ports recently, and are still building.

## MAGAZINES, ETC.

Ship. Z	Description.	Built.	Tons.	Service.	Port.
Garnatic	<i>ex</i> 3rd rate, 72	1823	2917	Magazine, N.O.D.	Portsmouth
Eclipse	<i>ex</i> corvette	1868	1760	N.O.D. Mine Depôt	Plymouth
Newcastle	<i>ex</i> frigate, 50	1860	4020	N.O.D. Powder hulk	Plymouth

## HOSPITAL SHIPS, ETC.

Ship. Z	Description.	Built.	Tons.	Service.	Port.
1 vessel		pro.			
Meeanee	<i>ex</i> 3rd rate, 80	1849	3842	W. D. Hospital	Hong-Kong
Midge	<i>ex</i> gun vessel	1868	603	Hospital	Hong-Kong
Pique	<i>ex</i> frigate, 36	1834	1811	Lent to port sanitary authorities	Plymouth

## OLD VESSELS LENT FOR TRAINING PURPOSES.

Ship. Z	Description.	Built.	Tons.	Purpose.
Arethusa	<i>ex</i> frigate	1849	3832	Destitute boys' training ship, Greenhithe
Olio	<i>ex</i> corvette	1858	2306	Boys' training ship, Bangor
Conway	<i>ex</i> 3rd rate	1839	4375	Training ship for Mercantile Cadets, Liverpool
Cornwall	<i>ex</i> 3rd rate	1813	2917	Juvenile Reformatory, Purfleet

Lieutenant General VR Raghavan,  
PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli

Old Vessels Lent for Training Purposes—*continued.*

Z	Ship.	Description.	Built.	Tons.	Purpose.
	Empress .	<i>ex Revenge</i> , 1st rate	1859	5260	Industrial training ship, Clyde
	Indefatigable	<i>ex frigate</i>	1848	2626	Boys' training ship, Mersey
	Mars .	<i>ex 3rd rate</i>	1848	3842	Boys' training ship, Dundee
	Mount Edgecumbe	<i>ex frigate</i>	..	2300	Industrial training ship, Devonport
	Warspite .	<i>ex Conqueror</i> , 2nd rate	1833	4579	Mar. Soc. training ship, Woolwich
	Wellesley .	<i>ex 3rd rate</i>	..	2996	Boys' training ship, Newcastle
	Worcester .	<i>ex screw</i> , 84	1860	4725	Training ship for Mercantile Cadets, Greenwich
	— .	<i>ex President</i> , <i>ex Gannet</i>	..	1130	Attached to training ship <i>Mercury</i> , Hamble

OLD VESSELS USED FOR BOOM DEFENCE.

Z	Name.	Description.	Built.	Tons.	Port.
	Argo ( <i>ex Espiegle</i> )	<i>ex comp. sloop</i>	1880	1130	Southampton
	Azov ( <i>ex Mutine</i> )	<i>ex sloop</i>	1878	1130	Southampton
	Bullfrog .	<i>ex comp. gunboat</i>	1881	465	Malta
	Firefly .	<i>ex comp. gunboat</i>	1877	455	Malta
	Magpie .	<i>ex gunboat</i>	1889	805	Southampton
	Mariner <sup>1</sup> .	<i>ex sloop</i>	1883	970	Devonport
	Melita .	<i>ex sloop</i>	1888	970	Southampton
	Pike .	<i>ex gunboat</i>	1872	254	Southampton
	Plover .	<i>ex gunboat</i>	1888	755	Gibraltar
	Reindeer <sup>1</sup> .	<i>ex sloop</i>	1884	970	Devonport
	Wrangler .	<i>ex comp. gunboat</i>	1880	465	Southampton

<sup>1</sup> Fitted with vertical boiler and steam winches for the working of the boom and also for the raising of sunken submarines.

## VESSELS AVAILABLE FOR SUBSIDIARY PURPOSES, HULKS, ETC.

Name. X Z	Launched.	Description.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tons.	I.H.P.	Station.	Remarks.
Ant	'73	Gunboat, III. class	85	26	6.4	254	110	Portsmouth	..
Arrow	'71	Gunboat, III. class	85	26	6.4	254	110	Portsmouth	..
Clyde.	'82	Screw sloop	133	25.3	12	1130	..	Rosyth	Storeship
Dart	'82	Survey vessel	133	25.3	12	470	250	Sydney	Lent to N.S.W. Government.
Dolphin	'82	Sailing brig	157	32	12.9	925	..	Portsmouth	Tender to <i>Columbine</i>
Implacable	'88	Training ship	..	..	..	3233	..	Devonport	For sale
Medusa	'88	Cruiser, III. cl.	265	41	16.6	2800	..	Bantry Bay	Calibrating vessel
Rattler	'86	Gunboat, I. cl.	165	29	11.2	715	1200	Portsmouth	Experimentally fitted with gas engines
Snapper (ex Mas- tiff)	'71	Gunboat, III. class	85	26	6.4	254	110	Portsmouth	..

Lieutenant General VR Raghavan.  
PYSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.

## COMMONWEALTH OF AUSTRALIA

## BATTLE-CRUISER.

**A AUSTRALIA** . . . Clydebank, 25.10.11. Laid down, 23.6.10

L., p.p. 555 ft.; w.l., 538 ft.; o.a. 590 ft. B., 80 ft. D. (mean), 26.5 ft. Disp., 19,200 tons.

I.H.P. 44,000=25 kts. Coal cap., 1000/2500 tons. Oil, 500 tons.

Engines: Parsons turbines (4 shafts) by builders. Boilers, Babcock & Wilcox.

Armour: Krupp. Complete belt about 14 ft. wide, 7 in. amidships, tapering to 4 in. at ends; turrets and barbettes, 7 in.; C.T., 10 in.; deck, sloping, 3 in.

Armament: 8-12 in. (45 cal.) in pairs in turrets, one forward, one aft, two diagonally amidships; 16-4 in. (50 cal.). Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 900.

Sister to H.M.S. *New Zealand* (see p. 162).

## CRUISERS.

**G MELBOURNE** . . . Birkenhead, 30.5.12. Laid down, 14.4.11

**SYDNEY** . . . Govan, 29.8.12. „ 11.2.11

**BRISBANE** . . . Sydney, bdg. „ 26.1.13

L., p.p. 430 ft.; o.a. 456.5 ft. B., 49.8 ft. D. (mean), 15.7 ft. Disp., 5400 tons.

I.H.P. 22,000=24.7 kts. Coal cap., 650/1000 tons. Oil, 250 tons.

Engines: Parsons turbines (4 shafts). Boilers, Yarrow.

Armour: Belt, 3 in.; deck, 1 in.

Armament: 8-6 in. (50 cal.); 4-3 pr.; 4 M. Torpedo tubes, 2-21 in. submerged, broadside. Compt. 376.

Sisters to British *Chatham* class (see p. 175).



**I ENCOUNTER . . . Devonport, 18.6.02. Laid down, 28.1.01**

L., p.p. 355 ft. B., 56 ft. D. (max.), 21.2 ft. Disp., **5880 tons.**

I.H.P. 12,500=21 kts. Coal cap., 500/1225 tons.

Engines: 2 sets 3 expans. by Keyham Yard. Boilers: Dürr.

Armour: Deck, 3 in. to 1.5 in. amidships, 2 in. to 1 in. at ends;  
C.T., 6 in.

Armament: 11-6 in. (45 cal.); 9-3 in. (12 pr.); 1-3 pr.; 2 M.

Torpedo tubes, 2-18 in. submerged, broadside. Compt. 475.

Sister to British *Challenger* (see p. 178).

**J PIONEER . . . Chatham, 28.6.98**

L., p.p. 305 ft. B., 36.7 ft. D. (mean), 15 ft. Disp., **2200 tons.**

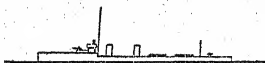
I.H.P. 7000=20 kts. Coal cap., 250/500 tons.

Engines: 2 sets 3 expans. by Fairfield. Boilers: Thornycroft.

Armour: Deck, 2 in. C.T., 3 in.

Armament: 8-4 in. (40 cal.); 8-3 pr.; 2 M. Torpedo tubes,  
2-14 in. above water. Compt. 225.

Sister to British *Pandora* class (see p. 182).

**DESTROYERS.**

Name. M	Builder.	Date.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tns.	I.H.P.	Speed. kts.	Engines.	Boilers.	Arma- ment.	Fuel. tns.	Compt.
Yarra . .	D	'10	245	24.2	..	700	10,000	26	P	Y	{ 1-4 in., 3-3 in., 3-18 in. tubes. }	..	66
Paramatta G	G	'10											
Warrego . .	S	'11											
Derwent . .	S	'14											
Swan . .	S	bdg.											
Torrens . .	S	bdg.	..	..	..	..	..	..	..	..	..	..	..
3 boats . .	..	pro.											

NOTES.—Builders: D=Dumbarton; G=Govan; S=Sydney. Engines: P=Parsons turbines. Boilers: Y=Yarrow. *Warrego* was built at Govan, and re-erected.

Lieutenant General VR Raghavan,

PVSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,

## SUBMARINE.

**S**      **AE 2** . . . . Barrow, 1913  
 L., 176 ft. B., 22.5 ft. Disp., 725/810 tons.  
 I.H.P. 1750/600=16.10 kts.  
 Armament: 4 torpedo tubes; 2-12 pr. guns.

## SHIPS OF FORMER STATE NAVIES.

## VICTORIA

**U**      **CERBERUS** . . . Jarrow, 1868. 3480 tons. 9.6 kts.  
 Armour: Iron. Belt, 8 in. to 6 in.; turrets, 10 in. to 9 in.  
 Armament: 4-10 in. muzzle-loading; 2-14 pr.; 2-6 pr.

## QUEENSLAND

**R**      **CAYUNDAH** . . . . Elswick, 1884  
 L., 115 ft. B., 25 ft.\* D., 10.5 ft. Disp., 360 tons.  
 I.H.P. 400=10.5 kts. Coal cap., 50/60 tons.  
 Armament: 1-8 in. (old); 1-6 in. (old); 2-3 pr.; 2 M.

## SOUTH AUSTRALIA

**R**      **PROTECTOR** . . . . Elswick, 1884. Reboilered, 1910-11  
 L., 180 ft. B., 30 ft. D., 12.5 ft. Disp., 920 tons.  
 I.H.P. 1600=14 kts. Coal cap., 150/200 tons.  
 Armament: 1-8 in. (old); 5-6 in. (old); 4 M.

## FLEET AUXILIARIES.

**W**      **KURUMBA** . . . . Wallsend, bdg.  
 Oil Supply Ship.

**W**      **PLATYPUS** . . . . Clydebank, bdg.  
 Disp., 3100 tons.  
 Submarine Dépôt.

**W**      **AORANGI** . . . . Supply Ship  
**W**      **BERRIMA** . . . . Transport  
**W**      **GRANTALA** . . . . Hospital Ship  
**W**      **UPOLU** . . . . Submarine Dépôt

X **TINCIRA** . . . . . Training Ship  
 X **UNA** (*ex* German *Komet*) Schooner

Z **PENGUIN** (*ex* Sloop) . . . . . Receiving Ship

## DOMINION OF NEW ZEALAND GUNBOAT.

R  
**AMOKURA** . . . . . Greenock, 26.9.89 (*ex* *Sparrow*). Composite  
 L., 165 ft. B., 31 ft. D., 11.6 ft. Disp., 805 tons.  
 I.H.P., 1200=13 kts. Coal cap., 105 tons.  
 Engines: 1 set horiz. 3 expans. Boilers, cylindrical.  
 Armament: 2-4 in. (old); 2-3 pr. <sup>0</sup>  
 (Training Ship for Boys.)

## CABLE SHIP, ETC.

X **TUTANEKAI** . . . . . Port Glasgow, 1896  
 L., 205 ft. B., 30 ft. Gross tonnage, 811 tons.  
 I.H.P. 1600=14 kts.  
 Engines: 2 sets 3 expans. by D. J. Dunlop & Co.

## LIGHTHOUSE TENDER, ETC.

X **HINEMOA** . . . . . Carlsdyke, 1876. Refitted, 1907  
 L., 207.3 ft. B., 25.2 ft. Gross tonnage, 282 tons.  
 I.H.P. 542=12 kts. (more since refit).

## SUBMARINE MINING VESSELS.

X **JANIE SEDDON** . . . . . Paisley, 1902  
**LADY ROBERTS** . . . . . „ 1901  
 L., 95 ft. B., 18 ft. Gross tonnage, 109 tons.  
 I.H.P. 320=10.5 kts.

H.M.S. *New Zealand* (p. 162) was paid for by the Dominion.

Nephew General VR Raghavan.

PVSM, UYSM, AVSM (*Retd*)

Nephew General ML Tuli.

## DOMINION OF CANADA

## PROTECTED CRUISERS.

## H

**NIOBE** . . . Barrow, 20.2.97. Laid down, 16.12.05. Bought, 1910

L., p.p. 485 ft.; o.a. 462 ft. B., 69 ft. D. (mean), 25.2 ft.  
Disp., 11,000 tons. Sheathed and coppered.

I.H.P. 16,500=20.2 kts. Coal cap., 1000/2000 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Armour: Deck, 4 in. to 2.5 in.; casemates, 6 in.; C.T., 12 in.

Armament: 16-6 in. (40 cal.), four in shields f. and a., twelve  
in casemates; 12-3 in. (12 pr.); 4-3 pr.; 2 M. Torpedo  
tubes, 2-18 in. submerged, broadside.

(Training Ship for Atlantic Coast.)

(Sister to British *Andromeda* class: see p. 171.)

## I

**RAINBOW** . . . Jarrow, 1891. Bought, 1909. Sheathed and coppered

L., p.p. 300 ft. B., 43.7 ft. D. (mean), 17.5 ft. Disp., 3600  
tons.

I.H.P. 9000=19.7 kts. Coal cap., 400/535 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Deck, 2 in. to 1 in.; engine coamings, 5 in.; C.T.,  
3 in.

Armament: 2-6 in. (40 cal.); 6-4.7 in. (40 cal.); 8-6 pr.;  
1-3 pr.; 4 M. Torpedo tubes, 4-18 in. above water.

Compt. 273.

(Training Ship for Pacific Coast.)

(Sister to British *Brilliant* class: see p. 180.)

## SUBMARINES.

S ——— (ex *Antofagasta*) . . . Seattle, 1913  
 ——— (ex *Iquique*) . . . . . " " "  
 Disp., 400 tons.  
 (Bought from Chili, 1914.)

## VARIOUS.

(Particulars supplied by the Department of the Naval Service, 1915.)

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Coal.	Crew.	Duty.
X		ft.	ft.	ft.	tns.		kts.	tns.		
Department of Agriculture—										
Alice . . .	'07	126	26	10	550	..	11.5	70	17	} Quarantine
Madge . . .	'07	98	20	9.5	310	300	10	40	8	
Minoca . . .	'10	89	19	10	275	..	11	25	6	
Polana . . .	'11	108	23	10	440	..	11	70	17	
Department of Customs—										
Margaret . .	'13	185	32	10.5	950	2000	15.5	200	30	Preventive
Department of Marine and Fisheries—										
Aberdeen . .	'91	180	31	15	1330	1510	13	125	45	} Light and Buoy
Brant . . .	'99	100	19	8.5	..	..	10	24	20	
Druid . . .	'02	160	30	12.5	1000	..	13	100	32	
Estevan . .	'12	212	38	15	2100	1500	12.5	350	40	
Lady Laurier .	'02	215	34	16.5	1970	1800	13	175	48	
Lambton . .	'09	108	25	10.5	510	850	11	92	14	
Lansdowne . .	'84	189	32	13.5	1380	..	9	250	40	
Newington . .	'80	118	21	13	475	..	10	85	17	
Quadra . . .	'91	175	31	14	1260	..	11	200	26	
Simcoe . . .	'09	180	35	15	1630	..	12.5	200	30	
Stanley . . .	'88	208	32	18	1890	2100	15.5	250	50	} Ferry Pilot — Mail Ice Breaker —
Champlain . .	'04	120	30	12	800	..	11	60	26	
Eureka . . .	'93	95	22	10	..	..	10	..	26	
Lady Grey . .	'06	172	32	12	1080	2300	14	200	31	
Minto . . .	'99	225	33	18.5	2070	2000	15.5	290	51	
Montcalm . .	'04	245	41	20	3270	3225	14	425	64	
Rouville . .	'06	125	26	..	..	..	..	..	23	
Department of Militia and Defence—										
Alfreda . . .	'04	93	18.5	9	270	400	9.5	18	10	—
Armstrong . .	'01	85	18	8.5	230	300	9.5	20	8	—
Beryl . . .	'03	52	13	5.5	45	90	8	5	4	—

General VR Raghavan.

FRYSM, UYSM, AVSM (Reid)

General ML Tuli.

Various—continued.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Coal.	Crew.	Duty.
X		ft.	ft.	ft.	tns.		kts.	tns.		
Department of the Naval Service—										
Acadia . . .	'13	170	33.5	11.5	1050	1200	12	260	41	Survey
Bayfield . . .	'89	140	24	10.5	550	..	12	100	28	
Cartier . . .	'10	164	29	10.5	800	830	11.5	150	35	
La Canadienne .	'80	154	23	10.5	500	..	7	135	30	
Lillovet . . .	'08	163	27	11	750	..	11.5	140	43	
Canada . . .	'04	206	25	11	780	1700	16	110	60	Fishery Protection
Constance . . .	'01	115.5	13.5	11.5	490	330	10	46	23	
Curlew . . .	'02	116.5	20	11	415	350	10.2	45	22	
Galiano . . .	'13	160	26.5	12.5	850	1350	14.2	200	33	
Gulnare . . .	'03	137	20.5	12	500	450	11	65	25	
Malaspina . . .	'13	160	26.5	12.5	850	1350	14.2	200	33	
Petrel . . .	'02	116	22	9	400	350	11	65	24	
Restless . . .	'06	71	17	9	205	..	8.5	25	8	
Vigilant . . .	'04	177	22	9.5	500	1800	16	75	30	—
Princess . . .	'06	165	26	12.5	850	..	11	124	28	
Department of the Post Office—										
Lady Evelyn . .	'01	180	26	10	680	1500	14	90	25	Mail
Department of Public Works—										
Speedy . . .	'06	125	20	11	420	500	12	40	11	—
Tyrian . . .	'00	237.5	30.5	17.5	1680	..	10	340	57	Cable
Department of Railways and Canals—										
Agnes . . .	'13	55	13.5	..	6	..	10	6	4	—
Alert . . .	'86	64	14.5	6	100	..	10	7	5	
Bessie Butler .	'07	78	17.5	6	150	40	12	12	5	
Carillon . . .	'12	60	16.5	6	100	125	11	6	6	
Frank Perew .	'67	72.5	16.5	8.7	200	110	10	9	6	
Kathleen . . .	'07	75	16.5	9	..	..	10	5	10	
Loretta . . .	'07	77	17	5	120	40	13	10	7	
Mulgrave . . .	'03	115	31	14	225	375	14	40	9	
Neophyte . . .	'03	107	20.5	7	..	7	..	..	11	
Scotia . . .	'01	254	47	13	2550	2060	12	120	17	

NOTES.—Armament: *Margaret*, 2-6 pr. *Canada*, 2-12 pr., 2-3 pr. *Galiano* and *Malaspina*, 1-6 pr. *Madge*, *Estevan*, *Newington*, *Quadra*, *Beryl*, *Galiano*, *Lillovet*, *Malaspina* and *Restless* are on Pacific coast.

## INDIA

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.
X V			ft.	ft.	ft.	tons.		kts.	
<b>TROOPSHIPS.</b>									
Northbrook .	'06	C	360	51.7	18	5820	7200	16	6-4 in.; 6-3 pr.
Dufferin .	'04	V	437	53	19	7457	9800	19.9	8-4 in.; 8-3 pr.
Hardinge .	'00	F	407	51	19	6520	9366	18	6-4.7 in.; 6-3 pr.; 4 M.
Olive .	'82	L	300	45.5	16.5	3570	2300	12	..
Canning .	'82	G	285	36.2	16.6	3200	1080	10.5	..
Dalhousie .	'86	G	239.5	36	15.6	1960	1500	13	6-6 pr.
Minto .	'93	L	205.5	31.5	..	930	2028	..	..
Elphinstone .	'87	N	205.5	28.2	14.5	950	1670	14	..
<b>PADDLE DESPATCH VESSELS.</b>									
Lawrence .	'86	L	212.2	32.2	18.3	1154	1200	13.5	4-6 pr.; 4 M.
Comet .	..	..	..	..	..	144	90	8	2 M.
<b>PILOT CRUISER.</b>									
Lady Fraser	'08	B	270	38	13.5	2062	..	13.7	..
<b>SURVEYING SHIPS.</b>									
Investigator	'07	V	240	33	16	1180	1500	13	..
Nancowry .	..	..	..	..	..	70 g.	100	7	..
<b>RIVER GUNBOATS.</b>									
Bhamo .	..	..	..	..	..	255	316	..	2 M. (stern wheel).
Palinurus	'07	L	..	..	..	208	475	..	.. (screw).
Sladen .	..	..	..	..	..	260	360	..	5 M. (paddle).
Irrawady	..	..	..	..	..	338 g.	750	..	2 M. (paddle).
<b>STEAMERS.</b>									
Guide	..	..	..	..	..	817 g.	2520	..	..
Mayo .	..	..	..	..	..	1125 g.	2157	..	..
<b>YACHTS.</b>									
Maud	..	..	..	..	..	71 g.	208	..	(For Viceroy).
Lytton .	..	..	..	..	..	18 g.	..	..	(For Viceroy).
<b>DREDGER.</b>									
Feyers .	'07	R	250	45	..	..	..	..	..

Lieutenant General VR Raghavan.

PVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli.

NOTES.—Builders: C=Clydebank; V=Vickers; F=Fairfield; L=Laird; G=Glasgow; N=Newcastle; B=Beardmore. (g. in Disp. column = gross tons.) Besides the guardship *Quangtung* (900 tons disp., built, Birkenhead, '68. Iron. Paddle); the troop-flat *Ganges* (400 tons, at Calcutta); the telegraph ship *Patrick Stewart* (one funnel. Two masted schooner); *Leopold* (54 tons gross, 100 I.H.P.) and *Koladyne* (hulk, 246 tons gross), both lent to Calcutta Naval Volunteers.

YARD CRAFT.<sup>1</sup>

X	Name.	Tons Gross.	I.H.P.	Port.	Service.
	Aqueduct . . .	115	193	Bombay	Water barge
	Defence . . .	14	137	Bombay	Water steamer
	Elephanta . . .	127	250	Bombay	Paddle tug
	Pansy . . .	54	100	Calcutta	Water boat
	Roberts . . .	62	28 (nom.)	Calcutta	...
	Sakka . . .	44	...	Aden	Water boat

<sup>1</sup> Also 6 Steam Launches at Calcutta, 2 each at Rangoon and Karachi, and 1 each at Bombay and Aden.

## SUBMARINE MINERS.

X	Name.	Tons Gross.	I.H.P.	Port.
	Cobra . . . . .	20	14 (nom.)	Calcutta
	Handy . . . . .	15	30	Rangoon
	Miner . . . . .	54	138	Karachi
	Miner No. 2 . . . . .	...	...	Bombay
	Muzbee . . . . .	93	347	Bombay
	Panther . . . . .	94	221	Calcutta
	Sapper . . . . .	15	25	Karachi
	Tamil . . . . .	93	383	Rangoon
	Tickler . . . . .	15	30	Bombay



## EGYPT AND THE SUDAN

## RIVER GUNBOATS.

V

**SHEIK** and **SULTAN** . . Poplar, 1897.      **MELIK** . . Chiswick, 1897  
 Length, 145 ft. Beam, 24.5 ft. Draught, 2 ft. Disp., 140 tons.  
 I.H.P. 600=11 kts. 2 screws in tunnels.  
 Armaments: 1-12 pr. ; 1-24 pr. howitzer ; 3 M.

V

**ABU KLEA**, **HAFIR**, **METEMMEH**, **TAMAI** . . Stern-wheel steamers  
 Armament: 1-22 pr. in *Abu Klea*, 1-9 pr. in others.

V

**ZAFIR**, **FATEH**, **NASIR** . . . . . Wyvenhoe, 1896  
 Length, p.p. 120 ft. ; o.a. 140 ft. Beam, 24 ft. Draught, 2 ft.  
 Disp., 128 tons.  
 I.H.P. 450=12 kts. Stern-wheel steamers.  
 Armament: 1-12 pr. ; 1-24 pr. howitzer: 4 M.

## MISCELLANEOUS.

XY	Name.	Tons.	I.H.P.	Service.
	Aida . .	723	130	Yacht.
	Cavalla . .	...	...	Yacht.
	Emirghian . .	11	...	Yacht.
	Dongola . .	330	80	Despatch vessel.
	Jefferieh . .	700	260	Despatch vessel.
	Khartoum . .	460	160	Despatch vessel.
	Gharbieh . .	3700	500	Transport.
	El Mounsef . .	40	100	Tug.

2 motor patrol-boats, length 45 ft., by Saunders, East Cowes, '08.

Lieutenant General VR Raghavan,  
 PWSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli,

STEAM AND SAILING CRUISERS OF H.H. COASTGUARD.

Name. X and Y	Tonnage.	Horse Power.	Speed. kts.	Rig.	When Built.	Armament.
Sahm . . . . .	..	180	..	motor launch	1911	1-1 pr.
Abdel Monaym . .	598	1000	13	1 funnel, 2 masts.	1902	
Noor-el-Bahr . .	450	870	13½	"	1884	1 search-light;
Abbas . . . . .	298	650	13	"	1891	1-3 pr. Q.
Uarda . . . . .	154	150	10½	"	1886	1 search-light;
Zareef . . . . .	144	175	10½	"	1885	1-3 pr. Q.
Nesseem <sup>1</sup> . . . .	81	..	10	"	1885	
Deeb-el-Bahr <sup>1</sup> .	..	..	..	"	..	
Sareea . . . . .	71	115	9	Steam launch	1886	
Maffettish Omoom	30	110	11	"	1898	
Nile . . . . .	32	70	8½	"	1890	
Mokbar-Seroor . .	32	70	8½	"	1890	
Hudood . . . . .	15	25	9	"	1895	
Mabrook . . . .	45	..	..	Fore & aft 2-masted lateen schooner	1891	
Teyr-el-Bahr . .	38	..	..	"	1890	
El Nimr . . . . .	38	..	..	"	1890	
Gazelle . . . . .	38	..	..	"	1890	
Mabel . . . . .	38	..	..	"	1885	
Sula . . . . .	10	..	..	Cutter	..	

<sup>1</sup> Training vessels.

YACHT.

X

MAHROUSSA . . . . London, 1865. Reconstructed, 1906

Length, 420 ft.; o.a. 440 ft. Beam, 42.1 ft. Draught, 17 ft.  
Disp., 3417 tons.

I.H.P. 5500=17.5 kts. Coal cap., 660 tons.

Engines: Parsons turbines by Inglis, Glasgow. Boilers, cylind.  
Compt. 160.

# 232 EGYPT AND THE SUDAN: VARIOUS

## STERN-WHEEL STEAMERS.

Y	Name.	Built.	Length.	Name.	Built.	Length.
			ft.			ft.
	Alexandria . . .	'85	90	Beatrice . . .	'05	80
	Kirbeka . . .	'06	to	Margaret . . .	'08	100
	Waterlily . . .	'85	110	Britain . . .	'08	180
	Amara . . .	'85	90	Sudan . . .	'08	120
	Amka . . .		to	Gedid . . .	'08	120
	Dal . . .		100	Omdurman . . .	'00	..
	Hannek . . .	'85	90	Ibis . . .	'07	..
	Kalbar . . .		to	Lord Cromer . . .	'07	..
	Ambigole . . .		100	Louise . . .	'07	..
	Semna . . .		90	Shabluka . . .	'07	..
	Tanjore . . .		to	Warana . . .	'07	..
	Toski . . .		100	Kassala . . .	'07	..

## PADDLE STEAMERS.

Y	Name.	Built.	Length.	Name.	Built.	Length.
			ft.			ft.
	Abbas Pasha . . .	'68	120	Evelyn . . .	'04	..
	Bordein . . .	'68	..	Tahra . . .	'04	..
	Elâm (Governor-General's Yacht)					

## TUGS.

Y	Name.	I.H.P.	Screws.	Name	I.H.P.	Screws.
	Cobra . . .	100	1	Serpent . . .	..	..
	Ocean . . .		(Sea-going)	Sobat . . .	60	1
	Horus . . .			Trusty . . .	100	1
	Hawk . . .			Viper . . .	..	1
	Leopard . . .	300	2	Vulcan . . .	..	1
	Lion . . .			Vixen . . .	..	1
	Lynx . . .					
	Panther . . .					
	Puma . . .					

## STEAM LAUNCHES.

Y Atbara, Belle, Brisk, Clysmā, Ena, Katherine, Lancet, Nubia, Pathfinder, Pioneer, Seagull, Swift, Tokar, Victoria.

## OIL FUEL LAUNCHES.

Y Patricia, Pilot, Scout.

Mukbir. Screw steamer. Length, 150 ft. Beam, 25 ft. Draught, 9.5 ft. Disp., 420 tons. Compt. 31.

Lieutenant General VR Raghavan.

PMSM. UYSM. AVSM (Retd)

Lieutenant General ML Tuli.

NORTHERN NIGERIA

Name.	Date.	Length.	Beam.	Draught.	I.H.P.	Speed.	Description.
V							
Corona . . .	..	ft. 160	ft. 30	ft. 2	320	kts. 9	Governor's Yacht, 2 screws
Empire . . .	..	134	27	2.1	..	..	} Stern Wheel Gunboats
Kapelli . . .	'02	100	20	1.8	..	10	
Kampala . . .	'02	75	18	1.2	..	10	
Sarota . . .	'02	135	26	2	..	10	} Stern Wheel Steamers
Sultan . . .	'07	99.7	18	1.9	..	8-7	
Etobe . . .	'09	100	20	..	..	10-5	
Egori . . .	'09	100	20	..	..	10-5	} Stern Wheel Tug
— . . .	'08	100	19.5	3.2	428	9-5	

SOUTHERN NIGERIA

Valiant.	'02	145	28	2	..	10	Stern Wheel Gunboat
Ivy	'96	220	34	..	..	..	Screw Yacht
Fabius	'09	160	33.5	5.5	..	..	Paddle Railway Ferry
Raven	'04	95	18	2	260	9-2	Stern Wheel Steamer
Vixen	'00	80	13	3.3	..	14	} Screw Launches
Vampire	'00	80	13	3.3	..	14	
Owl	'03	..	..	..	..	..	
Hawk	'03	..	..	..	..	..	
Magpie	'03	67	11	3.2	..	10	
Curlew	'04	..	..	..	..	..	
Snipe	'04	..	..	..	..	..	
Iris	..	..	..	..	..	..	
Rose	..	..	..	..	..	..	
Thistle	..	..	..	..	..	..	
Spider	'09	56	9	1	..	6	Motor Screw Launch
Sandfly	'09	56	9	1	..	6	Motor Stern Wheeler
Sand Grouse	'09	..	..	..	..	..	Suction Dredger
4 boats	..	..	..	..	..	..	Stern Wheel Launches
1 boat	..	..	..	..	..	..	Screw Barge

## NATAL

## TUGS.

X SIR JOHN . . . . . 1897

L., 150 ft. B., 28 ft.

Speed, 13 kts. Twin screw.

## SURVEYING SHIP.

X CHURCHILL

## BRITISH CENTRAL AFRICA

## GUNBOATS.

V CWENDOLEN . . . . . 1897

L., 136 ft. B., 24 ft. D., 6.5 ft. Disp., 350 tons.

I.H.P. 450=11.5 kts.

Armament: 4-6 pr.; 4 M.

(Re-erected and launched on L. Nyassa, 1898.)

V PIONEER . Poplar, 1892 ADVENTURE . Poplar, 1892

L., 75 ft. B., 12.5 ft. Disp., 30 tons.

I.H.P. 80=12 kts.

(Built for Admiralty. Taken over in 1895—L. Nyassa.)

V DOVE . . . . . Paddle gunboat on the Shiré.

L., 60 ft. B., 16 ft. D. (mean), 1.3 ft. Disp., 20 tons.

I.H.P. 50=8 kts.

Armament: 1 M.

(Built for Admiralty. Taken over in 1895.)

## BRITISH EAST AFRICA

V ROSE . . . . . Wyvenhoe, 1901

L., 67 ft. B., 13 ft. D., 1.6 ft.

I.H.P. 75=8.3 kts. 2 screws in tunnels.

V M'VITA . . . . . Patrol boat

Lieut. General VR Raghavan.

FVSM, UYSM, AVSM (Retd)

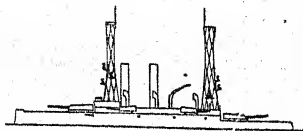
Lieut. General ML Tuli.

## BATTLESHIPS.

## GREECE

A\*

——. Building in France. Similar to *Lorraine* class. Will probably be taken over by France.



B

—— (ex *Idaho*) . . . Philadelphia, 9.12.05. Ld. du. 5.04  
 —— (ex *Mississippi*) . . . " 30.9.05. " 12.5.04

L., w.l. 375 ft.; o.a. 382 ft. B., 77 ft. D. (mean), 24.5 ft.  
 Disp., 13,000 tons.

I.H.P. 10,000=17 kts. Coal cap., 600/1750 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Trials: *Idaho*, I.H.P. 14,010=17.2 kts.; *Mississippi*, 13,607=17.1 kts.

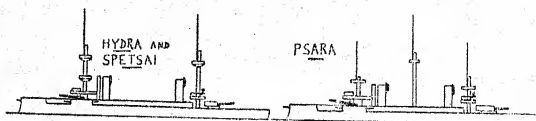
Armour: Krupp. Complete belt, 9.2 ft. wide, 9 in. at top and 7 in. at bottom amidships, tapering to 4 in. at ends; lower deck side amidships, 7 in.; bulkheads, 7 in.; main turrets, 12 in. to 8 in., with barbettes 10 in. to 7.5 in.; secondary turrets, 6.5 in. to 6 in., with barbettes 6 in. to 4 in.; battery, 7 in.; C.T., 9 in.; deck, sloping, 3 in., on flat, 1.5 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 8-8 in. (45 cal.) in pairs in turrets on beam; 8-7 in. (45 cal.) in battery: 12-3 in. (14 pr.); 4-3 pr.; 4-1 pr.; 8 M. Torpedo tubes, 2-21 in. submerged, broadside.

Compt. 725.

(Full-load displacement, 14,465 tons.)

(Bought from U.S.A., 1914.)



<b>D</b>	<b>PSARA</b>	Granville, 20.2.90.	Reconstructed, 1897
	<b>SPETSAI</b>	Granville, 26.10.89.	1900
	<b>HYDRA</b>	St. Nazaire, 15.5.89.	1900

L., p.p. 320 ft. ; w.l. 334 ft. ; o.a. 345 ft. B., 51.9 ft. D. (mean), 21 ft. ; max., 23.6 ft. Disp., 4808 tons.

I.H.P. 6610=17 kts. Coal cap., 592 tons.

Engines : 2 sets compound. Boilers, cylindrical.

Armour : Complete belt, 11.8 in. amidships, 4.7 in. at ends ; lower deck side, 3 in. ; battery redoubt, 13.7 in. ; barbette, aft, 11.8 in. ; turret, 5.9 in. ; C.T., 11.8 in. ; deck, flat on belt, 2.3 in. (*Hydra*, 1.9 in.).

Armament : 2-10.6 in. (36 cal.) on top of battery redoubt, one on each side ; 1-10.6 in. (30 cal.) in turret aft ; 5-5.9 in. (45 cal.), four in battery forward, one on top between big guns ; 1-3.9 in. (50 cal.) in bow ; 8-9 pr. ; 4-3 pr. ; 12-1 pr. Torpedo tubes, three above water (bow and broadside).

Compt. 440.

#### COAST DEFENCE SHIP.

**U** **BASILEUS GEORGIOS** . . . . . Blackwall, 1868  
1 funnel, 2 masts, iron built.

L., 200 ft. B., 33 ft. D., 15.2 ft. Disp., 1774 tons.

I.H.P. 2105=13.8 kts. Coal cap., 210 tons. Re-engined, 1897.

Armour : Iron. Complete belt, 6 in. ; battery, 6 in.

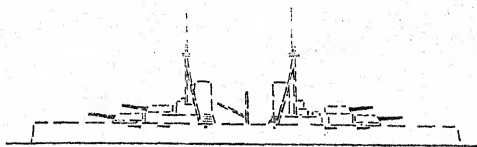
Armament ; 2-8.2 in. (old) ; 1-5.9 in. (old).

Compt. 128.

Lieutenant General VR Raghavan,

VRSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

**BATTLE-CRUISER.****A\*****SALAMIS** . . . . Vulkan, Stettin, bldg. Laid down, 1913

Length, 570.9 ft. Beam, 82 ft. Draught (mean), 25.3 ft.  
Disp., 19,193 tons.

I. H. P. 39,460 = 23 knots.

Engines: Curtis (A. E. G.) turbines.

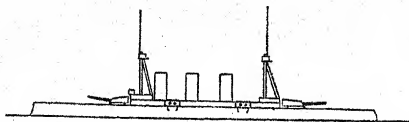
Armour: Krupp. Belt, 10 in.; lower deck side amidships, 8.5 in.; turrets, 10 in.; battery, 6 in.; C.T., 12 in.

Armament: 8-14 in. (45 cal.) in pairs in turrets on centre line;  
12-6 in. (50 cal.); 12-3 in. (14 pr.). Torpedo tubes,  
5-19.5 in., broadside and stern.

(Guns and armour from Bethlehem Steel Co.)

(Will probably be taken over by Germany.)



**ARMoured CRUISER.****E GEORGIO AVEROF** . . . . . Leghorn, 14.3.10L., p.p. 430 ft.; o.a. 462.6 ft. B., 69 ft. D. (mean), 23.5 ft.  
Disp., 9956 tons.

I.H.P. 19,727=23 kts. Coal cap., 650/1676 tons.

Engines: 3 sets 3 expans. Boilers, Belleville.

Trials: I.H.P. 21,206=23.9 kts.

Armour: Terni. Complete belt, 7.9 in. at top, 7.1 in. at bottom amidships, 3.5 in. at top, 3.1 in. at bottom at ends; lower deck side amidships for 280 ft., 7.1 in. to 6.3 in.; redoubt amidships, 7.1 in.; main turrets and barbettes, 7.1 in. to 6.3 in.; secondary turrets, 6.3 in.; C.T., 9.8 in.; tube, 5.9 in.; deck, sloping, 1.9 in.

Armament: 4-9.2 in. (45 cal.) in pairs in turrets f. and a.; 8-7.5 in. (45 cal.) in pairs in turrets at corners of redoubt; 16-3 in. (12 pr.); 8-3 pr. Torpedo tubes, 3-18 in. submerged (broadside and stern).

Compt. 550.

**E PAUL COUNDOURIOTIS** . . . . . Building**PROTECTED CRUISER.****J HELLI** (ex *Fei Hung*). . . . . New York S. Co., 4.5.12  
(Bought from China, 1914.)

L., 320 ft. B., 38.5 ft. D. (mean), 14 ft. Disp., 2600 tons.

I.H.P. 6000=20 kts. Coal cap., 225/600 tons.

Engines: Parsons turbines. Boilers, White-Forster and cylindrical.

Armour: Deck, 1.5 in.

Armament: 2-6 in. (45 cal.); 4-4 in. (50 cal.); 2-3 in. (14 pr.); 6-3 pr.; 2-1 pr. Torpedo tubes, 2-18 in. above water, broadside.

Compt. 270.

Lieutenant General VR Raghavan.

PUSM, UYSM, AVSM (Retd)

Lieutenant General ML Tuli.

## CRUISER.

**U NAUARCHOS MIAULIS** . . . . . La Seyne, 1879  
1 funnel, barque-rigged, iron-built, sheathed and coppered.

L., 268 ft. B., 36.1 ft. D., 14.8 ft. Disp., 1770 tons.

I.H.P. 2170 = 15 kts. Coal cap., 195 tons. 1 screw.

Armament: 4-6.6 in. (old); 2-3 pr.; 2 M.

Compt. 250.

Training Ship.

## GUNBOATS.

## R

**PARALOS** . Port Glasgow, 1860    **APHROESSA** . Port Glasgow, 1859  
**SALAMINIA** .                    **SYROS** .                    "  
1 funnel, schooner-rigged, iron-built, 1 screw.                    "

Disp., 380 tons. Speed, 8 kts.

Armament: 1-3.4 in. (old); 2 M.

**R AKTION** . . Blackwall, 1881.    **AMBRAKIA** . . Blackwall, 1881  
One funnel, two masts, composite-built, sheathed, and zincd.

L., 128 ft. B., 26 ft. D., 8.5 ft. Disp., 484 tons.

I.H.P. 682 = 11 kts. Coal cap., 60 tons. Two screws.

Armament: 1-10.2 in. (old).

**R ACHELOOS** . Blackwall, 1884.    **PENEIOS** . Dumbarton, 1884  
**ALPHEIOS** .                    **EUROTAS** .                    "  
One funnel, barque-rigged.                    "

L., 131.3 ft. B., 24.3 ft. D., 11.5 ft. Disp., 410 tons.

I.H.P. 400 = 10 kts. Coal cap., 55 tons. One screw.

Armament: 2-3.7 in. (old); 1-3 in. (12 pr.); 2 M.

## MINE-LAYERS.

**Y AIGIALIA, MONEMBASIA, NAUPLIA** . . . . . 1881  
Disp., 300 tons. Speed, 9 kts.

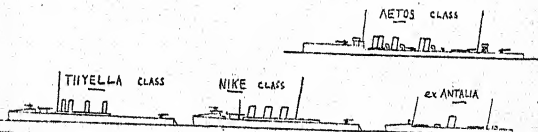
## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Compt.	Coal Cap.		
			ft.	ft.	ft.	tns.		kts.				tns.		
<b>M*</b>														
Lesbos .	'15	L	293	27.7	8.5	1175	19,750	32	W	4-4 in.; 4-21 in. t.	{	110 coal		
Crete .	'14							32	W			110 225		
Chio .	'14							32	W			110 75		
Aetos .	'11							32	W			110 oil		
Leon .	'11							32	W					
Pardalos .	'11	L												
Jerex .	'11	L												
<b>M</b>														
Keravnos	'12	V	220	20.5	6.1	390	23,000	32.5	S	{ 4-3 1/4 in.; 2 tubes. }	{	58 80		
Neagenea .	'12	V						32.5	S			58 80		
<b>N</b>														
Thyella	'06	Y	220	21.7	5.9	344	6600	31.8	Y	{ 2-12 pr.; 4-6 pr.; 2 tubes. }	{	58 80		
Naukratousa	'06	Y						32.0	Y			58 80		
Lonchi .	'07	Y						32.5	Y			58 80		
Sphendoni	'07	Y						31.8	Y			58 80		
Nike	'06	V						30.5	S			58 80		
Doxa .	'06	V	220			344	6600	30.5	S	{ 2-12 pr.; 4-6 pr.; 2 tubes. }	{	58 80		
Aspis .	'07	V						30.5	S			58 80		
Velos .	'07	V						30.5	S			58 80		

## TORPEDO BOATS.

<b>O</b>												
Arethusa .	'13	V	..	..	..	125	..	25	5	2-6 pr.; 3 t.	{	.. ..
Aigli .												
Dafni .												
Doris .												
Alcyon .												
Thetis .	'06	A	167	18.4	4.7	165	2170	27	..	2-3 pr.; 2 t.	{	.. 60
Nikopolis												
P 1 boat												12 9
P 5 boats	'85	V	128	14.4	5.4	85	1050	19	L	2 tubes.	{	21 20

NOTES.—Builders: A=Ansaldo; L=Laird; Y=Yarrow; V=Vulkan-Boilers: Y=Yarrow; S=Schultz; L=Locomotive; W=White. Forster.



## SUBMARINES.

<b>S</b>	<b>DELPHIN</b>	Chalons-sur-Saône, 2.8.11
	<b>XIPHIAS</b>	29.6.12
	1 boat	bdg.

L., 164 ft. Disp., 295/453 tons. Speed, 14/9 kts.  
Armament: One tube (bow), four outside launching gear.

Lieutenant General VR Raghavan.

AVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tahi.

## TORPEDO DEPÔT SHIP.

## W

**KANARIS** . . . . Port Glasgow, 1877. 2 funnels, 2 masts, iron-built  
 L., 300 ft. B., 30 ft. D., 11.3 ft. Disp., 870 tons.  
 I.H.P. 1500=15 kts. Coal cap., 200 tons. 1 screw.  
 Armament: 2-4.7 in. (old); 2 M. Torpedo tubes, 4 above  
 water, 2 in bow, 1 on each broadside. Carries 6 small  
 torpedo-boats.

## ROYAL YACHT.

## X

**AMPHITRITE** . . . Birkenhead, 1868. Reconstructed, 1895  
 3 funnels, 2 masts. Paddle steamer, iron-built  
 L., 252 ft. B., 30 ft. D., 9.7 ft. Disp., 1028 tons.  
 I.H.P. 1800=14 kts. Coal cap., 380 tons.  
 Armament: 2 M.

## TRANSPORTS.

## X

**SPHAKTERIA** . . . England, 1885. 1 funnel, schooner-rigged  
 L., 216.3 ft. B., 29.4 ft. D., 18 ft. Disp., 1000 tons.  
 I.H.P. 2400=16 kts. Armament: 2-1 pr. Compt. 100.

## X

**KRETE** . . . . 1894. Captured from Turkey, 1897. 1 funnel, 2 masts  
 L., 200 ft. B., 22.3 ft. D., 13 ft. Disp., 800 tons.  
 I.H.P. 800=11 kts. Armament: 2-3.4 in.; 2-1 pr.

## SCHOOL SHIPS.

## Z

**HELLAS** . . . . Northfleet, 1868. Reconstructed, 1878. Wooden hulk  
 Disp., 1300 tons. School ship for Cadets.

## X

**ARES** . . . . . Wooden training brig. Disp., 245 tons

## Z

**MESSOLOGION** . . . . . Hulk

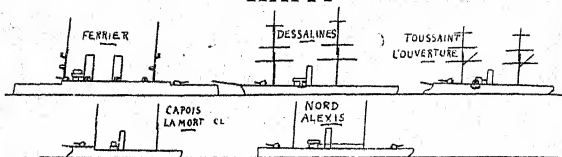
## X

**KARCHARIAS** . . . . . Wooden paddle tug and water tank

## X

**KISSA, KIKLI, AIDON** (ex gunboats), **KEPHALONIA, KERKYRA, PIRAEUS,**  
**PATRAS, ERMPOULIS.** Customs Launches.

## HAITI

**CRUISER.**

**J FERRIER** (ex *Umbria*), Leghorn, 23.4.91. Bought from Italy, 1911  
L., 262.4 ft. B., 39.4 ft. D. (mean), 15.1 ft. Disp., 2245 tons.  
I.H.P. 7400=18.5 kts. Coal cap., 394/423 tons.

Armour: Deck, 2 in. to 1 in.

Armament: 2-6 in.; 8-4.7 in.; 8-6 pr.; 10-1 pr.; 2 M.

Torpedo tubes, 2 above water. Compt. 257.

**R DESSALINES**. Philadelphia, 1883 (ex *Ethel*). Iron-built  
L., 195 ft. B., 31 ft. D. (mean), 14.7 ft. Disp., 1200 tons.  
I.H.P. =16 kts:

Armament: 3-3.9 in.; 4 M.

**R TOUSSAINT LOUVERTURE**. Havre, 1886.  
L., 164 ft. B., 24.6 ft. D. (mean), 9.4 ft. Disp., 514 tons.  
I.H.P. 790=14 kts.

Armament: 1-6.2 in. (30 cal.); 2-4.7 in. (30 cal.); 2 M.

**R**  
**CAPOIS LA MORT** Gravelle, 1893 **ALEXANDER PETION** Gravelle, 1893  
L., 147.6 ft. B., 20.2 ft. D. (mean), 6.7 ft. Disp., 256 tons.  
I.H.P. 690=14 kts.

Armament: 1-3.9 in.; 4-1 pr.

**R NORD ALEXIS**. Bought, 1905. President's Yacht  
Armament: 2-3.9 in.; 6-3 pr.

**R SAINT MICHAEL**. 1875 (ex *Jacmel*)  
L., 162 ft. B., 35 ft. D. (mean), 11 ft. Disp., 850 tons.  
I.H.P. =12 kts.

Armament: 1-11 in. muzzle-loader; 8-4 in. (old).

**R** 1804 1875  
L., 145 ft. B., 29 ft. D. (mean), 10 ft. Disp., 600 tons.  
I.H.P. =12 kts.

Armament: 1-10 in. muzzle-loader; 6-4 in. (old).

**R 22 DECEMBRE** 1860  
L., 208 ft. B., 30 ft. D. (mean), 16 ft. Disp., 900 tons.  
I.H.P. 360=9 kts. Armament: 4-4.7 in. (old).

Major General VR Raghavan.

Major General UYSM, AVSM (Retd)

Major General ML Tuli.

## HOLLAND

### BATTLESHIPS.

A

5 ships . . . . . projected

Length,

I.H.P.

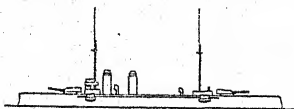
Engines:

Trials:

Armour:

Armament: 8-12 in.

Compt. .

**D**

**DE ZEVEN PROVINCIEËN** . . Amsterdam, 15.3.09. Laid down, 3.2.08

L., p.p. 333 ft. B., 56.1 ft. D. (max.), 20.3 ft. Disp., 6525 tons.

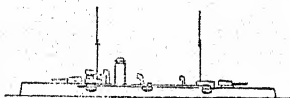
I.H.P. 7400=16 kts. Coal cap., 689/886 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Armour: Krupp. Complete belt, 6.9 ft. wide, 5.9 in. amidships, 3.9 in. at ends; main turrets and barbettes, 9.8 in.; secondary turrets, 3.9 in.; C.T., 7.9 in.; deck, sloping, 2 in.

Armament: 2—11 in. (40 cal.) in turrets, f. and a.; 4—5.9 in. (40 cal.) singly in turrets; 10—3 in. (12 pr. 55 cal.); 4—1 pr. Torpedo tubes, 2—18 in. submerged, bow and stern.

Compt. 443.

**D**

**JACOB VAN HEEMSKERK** . . Amsterdam, 22.9.06. Laid down, 15.8.06

L., p.p. 321.5 ft. B., 49.8 ft. D. (max.), 18.7 ft. Disp., 5049 tons.

I.H.P. 5920=16 kts. Coal cap., 620/812 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Trials: I.H.P. 6209=16.5 kts.

Armour: Krupp. Complete belt, 6.3 ft. wide, 5.9 in. amidships, 3.9 in. at ends; main turrets and barbettes, 7.9 in.; secondary turrets, 3.9 in.; C.T., 7.9 in.; deck, sloping, 2 in.

Armament: 2—9.4 in. (40 cal.) in turrets f. and a.; 6—5.9 in. (40 cal.), four singly in turrets, two in shields; 6—3 in. (12 pr.); 4—1 pr. Torpedo tubes, 2—18 in. submerged, bow and stern.

Compt. 351,

Lieutenant General VR Raghavan,

AVSM, UYSM, AVSM (Reid)

Lieutenant General ML Tuli,

**D**

**MARTEN HARPERTSZOON TROMP** . Amsterdam, 1904. Ld. dn. 2.5.03

L., p.p. 331 ft. B., 49.8 ft. D. (max.), 18.7 ft. Disp., 5212 tons.

I.H.P. 5920=16 kts. Coal cap., 676/825 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Trials: I.H.P. 6381=16.9 kts.

Armour: Harvey nickel. Complete belt, 5.7 ft. wide, 5.9 in. amidships, 3.9 in. at ends; main turrets and barbettes, 7.9 in.; secondary turrets, 3.9 in.; C.T., 7.9 in.; deck, sloping, 2 in.

Armament: 2-9.4 in. (40 cal.) in turrets f. and a.; 4-5.9 in. (40 cal.) singly in turrets; 8-3 in. (12 pr.); 4-1 pr. Torpedo tubes, 3-18 in., two submerged, broadside; one above water in bow.

Compt. 381.

**D**

**KONINGIN REGENTES** . Amsterdam, 1900. Ld. dn. 9.08

**DE RUYTER** . . . . . Rotterdam, 1901. " 1899

**HERTOG HENDRIK** . . . Amsterdam, 7.6.02. " 13.10.00

L., p.p. 316.9 ft. B., 49.8 ft. D. (max.), 19 ft. Disp., 5004 tons.

I.H.P. 5920=16 kts. Coal cap., 676/825 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Armour: Harvey nickel. Complete belt, 5.7 ft. wide, 5.9 in. amidships, 3.9 in. at ends; turrets and barbettes, 7.9 in.; shields, 3.9 in.; C.T., 7.9 in.; deck, sloping, 2 in.

Armament: 2-9.4 in. (40 cal.) in turrets f. and a.; 4-5.9 in. (40 cal.) in shields; 8-3 in. (12 pr.); 4-1 pr. Torpedo tubes, 3-18 in.; two submerged, broadside; one above water in bow.

Compt. 373.





## COAST DEFENCE SHIPS.

<b>D</b>	<b>EVERTSEN</b> . . . . .	Vlissingen, 1894
	<b>KORTENAER</b> . . . . .	Amsterdam, 1894
	<b>PIET HEIN</b> . . . . .	Fijenoord, 16.8.94

L., p.p. 283 ft. B., 46.9 ft. D. (max.), 17 ft. Disp., 3465 tons.  
I.H.P. 4625=16 kts. Coal cap., 246/325 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Harvey. Complete belt, 5.7 ft. wide, 5.9 in. amidships, 3.9 in. at ends; barbette, forward, 9.4 in.; shields to big guns, 5.9 in.; C.T., 9.4 in.; deck, flat on belt, 2 in.

Armament: 3-8.2 in. (35 cal.), two in barbette and shield forward, one in shield aft; 2-5.9 in. (35 cal.) in sponsons; 6-3 in. (12 pr.); 4-1 pr. Torpedo tubes, 3-18 in. above water, broadside and stern. Compt. 264.

<b>U</b>	<b>REINIER CLAESZEN</b> . . .	Amsterdam, 1891
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L., p.p. 229.6 ft. B., 44.2 ft. D. (max.), 15.1 ft. Disp., 2458 tons.

I.H.P. 2280=12.5 kts. Coal cap., 108 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Compound. Complete belt, 4.7 in. amidships, 3.9 in. at ends; turret and barbette, 11 in.; C.T., 11 in.; deck, flat on belt, 2.9 in. to 2 in.

Armament: 1-8.2 in. (35 cal.) in turret forward; 1-6.7 in. (35 cal.) in shield aft; 4-5 pr.; 3-1 pr. Torpedo tubes, two above water, broadside. Compt. 157.

<b>U</b>	<b>KONING DER NEDERLANDEN</b> . .	1874. 5400 tons. 11 kts.
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Armour: Iron. Belt, 7.9 in. to 5.1 in.; turrets, 9 in.

Armament: 4-4.7 in. (40 cal.) in turrets; 1-3 in. (12 pr.); 2-3 pr. (Guardship at Soerabaya.)

<b>U</b>	<b>MATADOR</b> . . . . .	1878. 1968 tons. 7.5 kts.
	<b>DRAAK</b> . . . . .	1877. 2200 tons. 8.4 kts.

Armour: Iron. Belt, 5.5 in. and 8 in. respectively; turret, 12 in.

Armament; 2-11 in. (old); 2-1 pr.; 2 M. Compt. 130.

Lieut. General VR Raghavan.

RVSM, UYSM, AVSM (Retd)

Lieut. General ML Tuli.



## CRUISERS.

## I

<b>GELDERLAND</b> . . . . .	Rotterdam, 28.9.98.	Ld. dn. 1897
<b>UTRECHT</b> . . . . .	Amsterdam, 15.7.98.	" 15.5.97
<b>NOORD-BRABANT</b> . . . . .	Vlissingen, 1899.	" 1897

L., p.p. 299 ft.; o.a. 311.7 ft. B., 48.5 ft. D. (max.), 17.7 ft.  
Disp., 3969 tons.

I.H.P. 9865=20 kts. Coal cap., 443/984 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow.

Trials: *Gelderland*, I.H.P. 9782=20 kts.; *Utrecht*, I.H.P. 10,028=19.6 kts.; *Noord-Brabant*, I.H.P. 9930=20 kts.

Armour: Harvey. Deck, 2 in.; engine coamings, 3.9 in.; C.T., 3.9 in.

Armament: 2-5.9 in. (40 cal.) in shields f. and a.; 6-4.7 in. (40 cal.) in shields on broadside; 4-3 in. (12 pr.); 8-1 pr.; 4 M. Torpedo tubes, 2-18 in., one submerged, bow; one above water, stern.

Compt. 323.

## I

<b>HOLLAND</b> . . . . .	Amsterdam, 1896.	Ld. dn. 1895
<b>ZEELAND</b> . . . . .	Vlissingen, "	" "
<b>FRIESLAND</b> . . . . .	Rotterdam, "	" "

L., p.p. 294.2 ft.; o.a. 306 ft. B., 48.5 ft. D. (max.), 17.7 ft.  
Disp., 3838 tons.

I.H.P. 9865=20 kts. Coal cap., 463/984 tons.

Engines: 2 sets 3 expans. Boilers, Yarrow and cylindrical.

Trials: *Holland*, I.H.P. 10,404=19.6 kts.; *Zeeland*, I.H.P. 9683=19.4 kts.; *Friesland*, I.H.P. 10,274=19.9 kts.

Armour and Armament as in *Gelderland* class, but both torpedo tubes are above water.

Compt. 323.

## DESTROYERS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.	Coal.	Compt.
M		ft.	ft.	ft.	tns.		kts.		tns.	
Hermelyn . . . . .	'12	229.6	21.5	8.5	477	7400	30	4-12 pr.; 4 M.; 2-18 in. tubes	94	70
Lynx . . . . .	'12									
Panter . . . . .	'13									
Vos . . . . .	'13									
Bulhond . . . . .	'12									
Jackhal . . . . .	'11	229.6	21.5	8.5	477	7400	30	4-12 pr.; 4 M.; 2-18 in. tubes	94	70
Fret . . . . .	'10									
Wolf . . . . .	'10									

## TORPEDO BOATS.

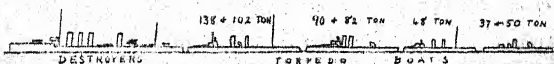
O										
8 G 17-24 . . . . .	bdg.	162.4	17.1	9.5	345	..	25	2-12 pr.; 3 tubes	..	..
4 G 13-16 . . . . .	bdg.	162.4	17.1	9.5	177	..	24	2-2 pr.; 3-18 in. torpedo tubes.	30	24
G 12 . . . . .	'09	153.5	15.2	7.5	138	1775	24.4			
G 11 . . . . .	'07						24.7			
G 10 . . . . .	'07						24.7			
G 9 . . . . .	'07						24.2			
Cornelis Janssen de Haan . . . . .	'06						23.6			
Jacob Cleydijck . . . . .	'06	153.5	15.2	7.5	138	1775	25.0			
Pieter Constant . . . . .	'06						24.3			
Roemer Vlacq . . . . .	'04						25.1			
Danielszoon van Rijn . . . . .	'04						25.3			
Johan van Brakel . . . . .	'04						24.8			
Meydert Jentjes . . . . .	'04	153.5	15.2	7.5	138	1775	24.2			
Willem Willemsze . . . . .	'04						24.6			
Smeroe . . . . .	'03						25.6			
Tangka . . . . .	'03						24.7			
Wajang . . . . .	'03						26.3			
Rindjani . . . . .	'01	153.5	15.2	7.5	138	1775	25.9			
Pangrango . . . . .	'01						25.3			
Ophir . . . . .	'01	153.5	15.2	7.5	138	1775	25.3			

NOTES.—2 of the new boats built by Vulkan, Stettin. *Ophir*, *Pangrango*, and *Rindjani* built by Yarrow. Rest built in Holland. All have Yarrow boilers. Destroyers have turbines.

## Torpedo Boats—continued.

Nome.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament	Coal.	Compt.
O		ft.	ft.	ft.	tns.		kts.		tns.	
Drak . . . . .	'06	120	13.5	7	102	1185	24.3	2-1 pr. ; 3 torpedo tubes.	20	21
Krokodil . . . . .	'06						23.2		20	21
Zeeslang . . . . .	'06						24.2		20	21
Python . . . . .	'03						24.0		20	21
Sinx . . . . .	'03						25.0		20	21
Minotaurus . . . . .	'03						24.3		20	21
Scylla . . . . .	'00						24.3		20	21
Hydra . . . . .	'00						21.2		20	21
P										
Idjen . . . . .	'89	128	13	6.2	90	985	20.6	2-1 pr. ; 3 torpedo tubes.	18	16
Krakatau . . . . .	'89						19.1		18	16
Habang . . . . .	'88						21.7		18	16
Goentoer . . . . .	'88						21.0		18	16
Foka . . . . .	'88						22.1		18	16
Empong . . . . .	'88						22.1		18	16
Ceberus . . . . .	'88						21.2		10	16
Cycloop . . . . .	'87	125	13	6	82	790	20	2-1 pr. ; 2 torpedo tubes.	10	16
Dempo . . . . .	'87						20		10	16
Batok . . . . .	'87						20		10	16
Ardjoeno . . . . .	'86						21		10	16
Michiel Gardeyn . . . . .	'05						18.4		5	12
Christiaan Cornelius . . . . .	'05						18.9		5	12
Willem Warmont . . . . .	'05						18.6		5	12
Jan Haringh . . . . .	'91	84	10.5	4.9	37	445	17.9		5	11
Jasper Linsen . . . . .	'91						17.5		5	11
Jacob Hobein . . . . .	'91						17.8		5	11
Nobo . . . . .	'91						20.7		12	13
Makjan . . . . .	'90	104.5	13.3	5.1	50	780	20.7		12	13
Lamongan . . . . .	'90						20.7		12	13

NOTES.—*Scylla*, *Hydra*, *Empong*, and *Ardjoeno* were built by Yarrow, the rest in Holland. The later boats have Yarrow boilers. All are single screw boats. *Michiel Gardeyn* class are also known as K1 - K3.



## SUBMARINES.

	Number.	Date.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Tubes.	Compt.
			ft.	ft.	tons.		kts.		
2	Nos. 6, 7	bdg.	—	—	—/200	—	—	—	—
3	K1-K3	'13/14	151.5	14.1	317/387	—	16/11	3	—
4	Nos. 2-5	'11/13	106	9.8	130/148	300/—	11/8	2	—
1	No. 1	'05	65.5	10.9	118	160/80	9/7	1	9

NOTES.—No. 1, Holland type; others, Whitehead type. All built at Vlissingen. K1-K3 are for the East Indies. No. 1 did only 7·2/5·5 kts. on trial.

## ARMoured GUNBOATS.

## R

**BRINIO** . . . . . Amsterdam, 1912. Laid down, 1911  
**FRISIO** . . . . . " " " "  
**GRUNO** . . . . . " " " "

L., 172.2 ft. B., 27.8 ft. D., 9.2 ft. Disp., 535 tons.

I.H.P. 1200=15 kts. Two internal combustion engines.

Armour: Belt, 2·2 in.; deck, ·8 in.; C.T., 2 in.

Armament: 4—4·1 in. (50 cal.); 2 M.

(Designed to meet Destroyers.)

## R

**MO8A** . . . Amsterdam, 1878 **RHENUS** . . . Amsterdam, 1877  
**ISALA** . . . 1876 Iron-built

L., 151 ft. B., 24.9 ft. D. (max.). 4.6 ft. Disp., 382 tons.

I.H.P. *Mosa*, 395=8 kts. Others, 295=7 kts. Coal cap., 35 tons.

Armour: Belt, 5 in. to 2 in.; turret, 5 in.; C.T., 1 in.; deck, 1·6 in.

Armament: 2—4·7 in. (old) in turret forward.

Compt. 44.

## GUNBOATS.

**R ASSAHAN** . . . 1900    **SIBOGA** . . . 1898    **KOETEI** . . . 1898  
**EDI** . . . 1897    **SERDANG** . . . 1897    **MATARAM** . . . 1896  
 L., p.p. 177.2 ft. B., 30.8 ft. D. (mean), 11.8 ft. Disp., 807 tons.  
 I.H.P. 1280=13 kts. Coal cap., 148 tons.  
 Armament: 2-4.1 in.; 2-3 in. (12 pr.); 4-1 pr.; 1 M.  
 Compt. 98.

**R KWARTEL** . . . . . Vlissingen, 1901  
 L., 118 ft. B., 26 ft. D. (max.), 7.7 ft. Disp., 355 tons.  
 I.H.P. 545=12 kts. Coal cap., 23 tons.  
 Armour: Deck, 1 in.  
 Armament: 4-6 pr.; 4-1 pr.

**R GLATIK** . . . 1894    **ZWAAN** . . . 1891  
**FLAMINGO** . . . 1891    **PELIKAAN** . . . 1891  
 L., p.p. 158 ft. B., 26.2 ft. D. (mean), 10.5 ft. Disp., 400 tons.  
 I.H.P. 480=11.3 kts. Coal cap., 43 tons.  
 Armament: 3-4.7 in.; 1-3 in. (12 pr.); 2-3 pr.

**R FLORES** . . . . . Vlissingen, 1887. Sheathed and coppered  
 L., p.p. 157.5 ft. B., 25.7 ft. D. (mean), 10.2 ft. Disp., 542 tons.  
 I.H.P. 800=11 kts. Coal cap., 59 tons.  
 Armament: 3-4.7 in.; 1-3 in. (12 pr.); 2-1 pr.  
 Compt. 98.

**R ZEEDUIF** . . Rotterdam, 1890    **RAAF** . . Vlissingen, 1889  
 L., p.p. 132 ft. B., 24 ft. D. (mean), 9 ft. Disp., 420 tons.  
 I.H.P. 405=10.6 kts. Coal cap., 40 tons.  
 Armament: 2-3 in. (12 pr.); 2-6 pr.

**R REIGER** . . . . . Rotterdam, 1887. Composite-built  
 L., p.p. 126 ft. B., 22 ft. D. (mean), 10.2 ft. Disp., 390 tons.  
 I.H.P. 260=10 kts. Coal cap., 43 tons.  
 Armament: 2-3 in. (12 pr.); 2 M.

**R AREND** . . 1879    **VALK** . . 1880    **ZEEMEEUW** . 1878  
**ZWALUW** . 1882    **CONDOR** . 1885    Composite-built  
 L., p.p. 125 ft. B., 21 ft. D. (mean), 10.2 ft. Disp., 340 tons.  
 I.H.P. 315=10 kts. Coal cap., 27 tons.

**R ZEEHOND . . . . . Amsterdam, 1892**

L., p.p. 141.1 ft. B., 28.2 ft. D. (mean), 11.2 ft. Disp., 700 tons.

Armament: 2-3 in. (12 pr.).  
(Fishery Protection.)

**R DOLFIJN . . . . . Rotterdam, 1889**

L., p.p. 118 ft. B., 19.6 ft. D. (mean), 9.6 ft. Disp., 246 tons.

I.H.P. 370=12 kts. Coal cap., 23 tons.

Armament: 2-3 in. (12 pr.).  
(Fishery Protection.)

**R**

**FREYR . . 1877 WODAN . 1877 BALDER . 1878 BRAGA . 1878**

**HEIMDALL . 1878 NJORD . 1878 TIJR . . 1878 (Delftshaven)**

**HADDA . . 1879 UDUR . 1879 (Amsterdam)**

**HEFRING . 1879 VIDAR . 1879 (Rotterdam)**

L., p.p. 87.3 ft. B., 26.8 ft. D. (mean), 7.8 ft. Disp., 264 tons.

I.H.P. 100 to 170=7 to 8 kts. Coal cap., 25 tons.

Armament: 1-11 in. (old); 2-1 pr.; 1 M.

Compt. 34.

(*Balder* and *Hadda* are fitted for mine-laying. *Hefring* and *Vidar* are used for gunnery instruction. *Udur* is used as a Training Ship.)

**R**

**BEVER . . . . . 1876 SPERWER . . . . . 1875 (Delftshaven)**

**HYDRA . . . . . 1873 LYNX . . . . . 1875 (Rotterdam)**

**DAS . . . . . 1876 DOG . . . . . 1874 GEEP . . . 1875**

**RAAF . . 1875 (Amsterdam) EVER . . . 1872 (Elswick)**

L., p.p. 81 ft. B., 25 ft. D. (mean), 6 ft. Disp., 175 tons.

I.H.P. 125 to 150=7.5 to 8 kts. Coal cap., 16 tons.

Armament: *Bever*, *Sperwer*, *Lynx*, and *Ever*, 1-9 in., muzzle-loader; others, 1-8.2 in. (old); 3-1 pr. *Dog* has one torpedo tube.

Compt. 34.

**RIVER GUNBOATS.****V BARITO, BOCOR, DJAMBI, KOETEI, SINKAWANG, TAMIANG**

*Barito*, screw steamer; others, stern wheelers.

## MINE-LAYERS.

**W HYDRA** . . . 1911. **MEDUSA** . . . 1911  
 L., p.p. 157.5 ft. B., 29.5 ft. D., 9.1 ft. Disp., 660 tons.  
 I.H.P. 790=11 kts.  
 Armament: 3-3 in. (12 pr.) Compt. 48.

## SUBMARINE DEPÔT AND SALVAGE SHIP.

**W VALI** . . . 1878  
 Disp., 838 tons.  
 Speed, 9 kts.

## SURVEYING SHIPS.

**X**  
**VAN DOORN** . . . 1901 **VAN GOCH** . . . 1898. Composite  
 L., p.p. 180 ft. B., 27.5 ft. D. (mean), 10.5 ft. Disp., 690 tons.  
 I.H.P. 395=10 kts. Coal cap., 98 tons.

**R BORNEO** . . . Clydebank, 25.11.92. Composite  
 L., p.p. 166 ft. B., 31 ft. D. (mean), 11.7 ft. Disp., 817 tons.  
 I.H.P. 1040=13.2 kts. Coal cap., 120/130 tons.  
 Armament: 6-4.1 in.; 4-1 pr. Compt. 80.

**X**  
**LOMBOK** . . Amsterdam, 1891 **SUMBAWA** . . Vlissingen, 1891  
 L., p.p. 158.2 ft. B., 26.2 ft. D. (mean), 10.4 ft. Disp., 591 tons.  
 I.H.P. 840=12.5 kts. Coal cap., 60 tons.

## TRAINING SHIPS.

**R**  
**SOMMELSDIJK** . . . Amsterdam, 1882. Sheathed and coppered  
 L., 147.6 ft. B., 31.2 ft. D. (mean), 13.2 ft. Disp., 997 tons.  
 I.H.P. 715=10 kts. Coal cap., 94/148 tons.  
 Armament: 1-5.9 in. (old); 3-4.7 in. (old); 1-3 in. (12 pr.);  
 2-1 pr.; 2 M. Compt. 91.  
 (Training Ship for Boys.)

**R BELLONA** . . . Amsterdam, 1893  
 L., 170.3 ft. B., 32.8 ft. D. (mean), 11.8 ft. Disp., 905 tons.  
 I.H.P. 395=9 kts.  
 Armament: 4-4.7 in.; 5-3 in. (12 pr.); 3-12 pr. howitzers;  
 11-1 pr. and M.  
 (Gunnery School Ship.)



Name.	Date.	Disp.	Speed.	Armament.	Duty.
<b>X Z</b>					
		tns.	kts.		
Koningin Emma der Nederlanden	'79	3350	14	..	Torpedo School
Van Speijk	'82	3350	14	..	
Bonaire . . .	'77	800	9	..	Naval Militia Depôt
Suriname . . .	'77	800	9		
Adolf Hertog van Nassau	'61	3630	..	4-4.7 in.; 2-12 pr.	Guardship, <i>ex</i> Sailing Frigate
Bromo . . .	'74	1310	..	..	Guardship, Hulk
Van Galen . . .	'72	2130	..	..	School Ship
Neptunus . . .	'57	3200	..	14-4.7 in.; 1-1 pr.	Naval Militia Depôt
Admiraal van Wassenauer	'56	2750	..	1-12 pr.	Guardship
Marnix . . .	'67	1450	..		
Amstel . . .	'60	..	..	1-1 pr.	Torpedo School
Vulkaan . . .	'59	380	..		
Heldin . . .	'42	..	..	8-4.7 in.; 2-12 pr.; 1-1 pr.	Gunnery School Floating Batt'ry
Buffel . . .	'68	2230	..	6-4.7 in.; 2-12 pr.; 2-1 pr.	Naval Militia Depôt
Aruba . . .	'73	800	..	..	Tender for Cadets
Castor . . .	'78	420	..	..	Sailing Brig
Pollux . . .	'80	420	..	..	Sailing Brig
Urania . . .	'67	330	..	2-4.7 in.; 2-1 pr.	Sailing Sloop
Nautilus . . .	'85	1040	..	6-4.7 in.; 1-12 pr.; 2-1 pr.	Sailing Corvette
Argus . . .	'92	122	..	2-12 pr.	Sailing Schooner
Coertzen . . .	'83	222	9.6	..	Pilot Service
Albatros . . .	'08	102	..	..	Revenue Service
Ulf . . .	..	..	..	..	Oil Tank

## HONDURAS

Y 22 DE FEBRERO . . . . . 24.12.97

Steel screw launch. Disp., 13 tons. I.H.P. 22.

## ITALY

## BATTLESHIPS.

A\*

GUISEPPE MAZZINI.	. . . Spezia,	Pro.
GOFFREDO MAMELI	. . . Castellamare,	"
MOROSINI	. . . . . Genoa (Odero),	"
DANDOLO	. . . . . Genoa (Ansaldo),	"

Length, 656.1 ft. Beam, 98 ft.

Disp. (about) 28,000 tons.

I.H.P. 47,350=25 kts.

Armour: Krupp. Belt, 12.6 in. (max.)

Armament: 8-15 in. (45 cal.) in pairs in turrets on centre line  
20-6 in. (50 cal.) in battery; 20-3 in.

Compt.



A

**ANDREA DORIA** . Spezia. C. 1915. L. 30.3.13. B. 24.3.12

**CAIO DUILIO** . . Castellamare. , 1914. , 24.4.13. , 25.4.12

Length, p.p. 554.5 ft. ; w.l. 575.8 ft. Beam, 91.8 ft. Draught (mean), 27.5 ft. Disp., 22,340 tons.

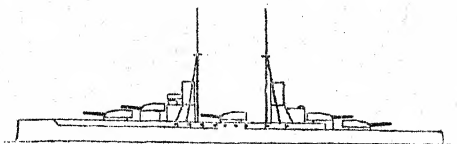
I.H.P. 23,675=23 kts. Coal cap., 984/2460 tons.

Engines: Parsons turbines. Boilers, Yarrow.

Armour: Terni. Complete belt, 10 in. amidships, tapering to 4 in. at ends; lower deck side, 9 in. amidships, tapering to 4 in. at ends; main deck side amidships, 8 in. ; batteries, 6 in. ; turrets and barbets, 10 in. ; C.T., 11 in. ; deck, 2 in.

Armament: 13-12 in. (46 cal.), 9 in threes in turrets on centre line, 4 in pairs in turrets firing over end triple turrets; 16-6 in. (50 cal.), 8 in. upper-deck battery forward, 8 in. main deck battery aft; 18-3 in. (14 pr.). Torpedo tubes, 3-18 in. submerged, broadside and stern.

Compt. 1000.



## A

**CONTE DI CAVOUR.** Spezia. C. 1914. L. 10.8.11. B. 10.8.10  
**LEONARDO DA VINCI** Genoa (Odero). „ 29.11.13. „ 14.10.11. „ 18.7.10  
**GIULIO CESARE.** . Genoa (Ansaldo). „ 29.11.13. „ 15.10.11. „ 23.6.10

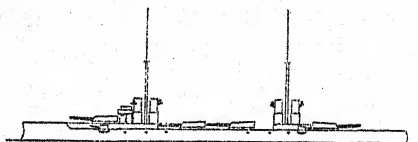
L., p.p. 554.5 ft. ; w.l. 575.8 ft. B., 91.8 ft. D. (mean), 27.5 ft.  
 Disp., 22,340 tons.

I.H.P. 23,675=23 kts. Coal cap., 984/2460 tons.

Engines : Parsons turbines. Boilers, Babcock & Wilcox in *Giulio Cesare*, Blechynden in others.

Armour : Terni. Complete belt, 10 in. amidships, tapering to 4.7 in. at ends ; lower deck side, 9 in. amidships, tapering to 4 in. at ends ; main deck side, 8 in. amidships, tapering to 4 in. forward ; battery, 8 in. ; turrets and barbettes, 10 in. ; C.T., 11 in. ; deck, 2 in.

Armament : 13-12 in. (46 cal.), nine in threes in turrets on centre line, four in pairs in turrets firing over end triple turrets, 18-4.7 in. (50 cal.) in battery ; 18-3 in. (14 pr.). Torpedo tubes, 3-18 in. submerged, broadside and stern.

**A**

**DANTE ALIGHIERI** . Castellamare. C. 20.1.13. L. 20.8.10. P. 6.6.09

L., w.l. 510 ft. B., 85.3 ft. D. (mean), 27.2 ft. Disp., 18,946 tons.

I.H.P. 28,605=23 kts. Coal cap., 984/2460 tons.

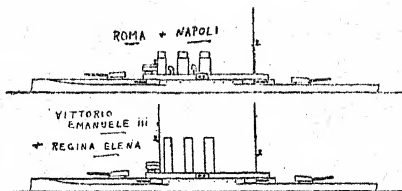
Engines: Parsons turbines by Ansaldo Armstrong Co.  
Sampierdarena. Boilers, Blechynden.

Trials: I.H.P. 32,450=23.8 kts.

Armour: Terni. Complete belt, 9.8 in. amidships, tapering to 5.9 in. forward and 4.7 in. aft; main deck side, amidships, 8.7 in.; main turrets, 9.4 in.; barbettes, 9.1 in.; secondary turrets and battery, 3.9 in.; forward C.T., 12 in.; after C.T., 7.9 in.; deck, sloping, 2 in.

Armament: 12-12 in. (46 cal.) in threes in four turrets on centre line, the middle pair of turrets having no end-on fire; 20-4.7 in. (50 cal.), eight in pairs in turrets, twelve in battery; 16-3 in. (14 pr. 50 cal.). Torpedo tubes, 3-18 in. submerged, broadside and stern.

(Alterations during construction have increased this ship's draught by about 1.3 ft. and her displacement by about 1200 tons.)



## C

ROMA . . . . .	Spezia,	21.4.07.	Ld. dn. 20.9.03
NAPOLI . . . . .	Castellamare,	10.9.05.	„ 21.10.03
VITTORIO EMANUELE III. . . . .	„	1.10.04.	„ 18.9.01
REGINA ELENA . . . . .	Spezia,	19.6.04.	„ 10.9.01

L., p.p. 435 ft.; o.a. 475 ft. B., 73.5 ft. D. (mean), 25.9 ft.  
Disp., 12,425 tons.

I.H.P. 19,725=22 kts. Coal cap., 984/1968 tons.

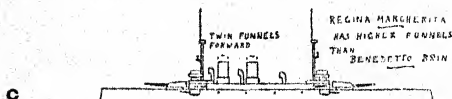
Engines: 2 sets 3 expans. *Roma* by Ansaldo; *Napoli* by Hawthorn, Guppy; *Vittorio Emanuele III.* by Orlando; *Regina Elena* by Odero. Boilers: *Roma* and *Napoli*, Babcock & Wilcox; *Vittorio Emanuele III.* and *Regina Elena*, Belleville.

Trials: *Roma*, I.H.P. 21,668=23 kts.; *Napoli*, I.H.P. 21,700=23.6 kts.; *Vittorio Emanuele III.*, I.H.P. 19,036=22.8 kts.; *Regina Elena*, I.H.P. 19,025=22.5 kts.

Armour: Terni. Complete belt, 9.1 ft. wide, 9.8 in. amidships, tapering to 3.9 in. at ends; lower deck side, 8 in. amidships, 2 in. forward; bulkheads, 8 in.; main turrets and barbets, 8 in.; secondary turrets, 5.9 in.; battery, 3.1 in.; C.T., 9.8 in.; deck, sloping, 3.1 in.

Armament: 2-12 in. (40 cal.) in turrets f. and a.; 12-8 in. (45 cal.) in pairs in turrets, four on main deck, two on upper deck; 24-3 in. (12 pr.); 2-3 pr.; 2 M. Torpedo tubes 2-18 in. submerged, broadside.

Compt. 764.



C

**REGINA MARGHERITA** . . . . . Spezia, 30.5.01. Ld. dn. 20.11.98  
**BENEDETTO BRIN** . . . . . Castellamare, 7.11.01. „ 2.99

L., p.p. 426.5 ft. B., 78 ft. D. (mean), 27.2 ft. Disp., 13,215 tons.  
 I.H.P. 18,740=20 kts. Coal cap., 984/1968 tons.

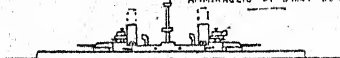
Engines: 2 sets 3 expans. *Margherita* by Ansaldo (Niclause boilers); *Brin* by Hawthorn, Guppy (Belleville boilers).

Trials: *R. Margherita*, I.H.P. 19,551=20.2 kts.; *B. Brin*, I.H.P. 20,195=20.4 kts.

Armour: Terni. Complete belt, 10.5 ft. wide (narrower at ends), 5.9 in. amidships, 2 in. at ends; B.H., turrets, and barbettes, 8 in.; battery and casemates, 5.9 in.; C.T., 5.9 in.; deck, sloping, 3.1 in. to 1.6 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 4-8 in. (45 cal.) in casemates; 12-6 in. (40 cal.) in battery; 20-3 in. (12 pr.); 2-1 pr.; 2 M. Torpedo tubes, 4-18 in. submerged, broadside. Compt. 810.

EMANUELE FILIBERTO HAS HIGHER FUNNELS THAN AMMIRAGLIO DI SAINT BON



C

**AMMIRAGLIO DI SAINT BON** . . . . . Venice, 29.4.97  
**EMANUELE FILIBERTO** . . . . . Castellamare, 27.9.97

L., p.p. 344.5 ft. B., 69.3 ft. D. (mean), 24.7 ft. Disp., 9645 tons.  
 I.H.P. 18,315=18 kts. Coal cap., 590/984 tons.

Engines: 2 sets 3 expans. *Am. di Saint Bon* by Ansaldo, *E. Filiberto* by Hawthorn, Guppy. Boilers, cylindrical.

Armour: Harvey nickel. Complete belt, 9.8 in. amidship, 3.9 in. at ends; lower deck side, amidships, and battery, 5.9 in.; turrets, 9.4 in. to 5.9 in.; barbettes, 9.8 in.; C.T., 9.8 in.; deck, sloping, 3.1 in. to 1.6 in.

Armament: 4-10 in. (40 cal.) in pairs in turrets f. and a.; 8-6 in. (40 cal.) in battery; 8-4.7 in. (40 cal.); with, in *St. Bon*, 8-6 pr., 2-1 pr., 1 M.; and in *Filiberto*, 6-12 pr., 6-3 pr., 2 M. Torpedo tubes, 4-18 in. submerged, broadside. Compt. 560.



D

<b>SARDEGNA</b>	. . . . .	Spezia,	20.9.90
<b>SICILIA</b>	. . . . .	Venice,	6.7.91
<b>RE UMBERTO</b>	. . . . .	Castellamare,	17.10.87

L., p.p. *Sardegna*, 410.9 ft.; others, 400.3 ft. B., 76.8 ft. D. (max.): *Re Umberto*, 29.5 ft.; others, 28.5 ft. Disp., *Sicilia*, 13,088 tons; *Sardegna*, 13,640 tons; *Re Umberto*, 13,673 tons.

I.H.P. 19,235=20 kts. Coal cap., 1181/2953 tons. Oil, tons.

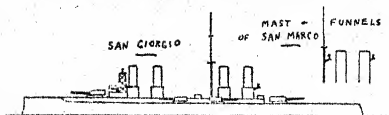
Engines: 4 sets, 2 on each shaft, 3 expans. in *Sardegna* by Hawthorn, Guppy, & Co.; compound in others. *Sicilia* by Ansaldo, *Re Umberto* by Maudslay. Boilers, cylindrical.

Armour: Steel. Belt for 239 ft. amidships (249 in *Sardegna*) from 3 ft. below water-line to upper deck, 3.9 in.; bulkheads, 2.7 in.; barbettes, 14.2 in. (at 23°); hoods, 1 in.; C.T., and ammunition hoists, 11.8 in.; deck, sloping, 4.3 in. to 2 in. These ships have triple bottoms.

Armament: 4-13.5 in. (30 cal.) in pairs in barbettes f. and a.; 8-6 in. (40 cal.) in shields on superstructure; 12-4.7 in. (40 cal.) in unarmoured battery; 20-6 pr.; 10-1 pr. (*Re Umberto* has 15-6 pr.; 14-1 pr.); 2 M. Torpedo tubes, 5 above water.

Compt. 733.



**ARMoured CRUISERS.**

**E SAN MARCO** . Castellamare, 20.12.09. Laid down, 2.1.07  
**SAN GIORGIO** . " 28.7.08. " 5.7.05

L., p.p. 429.8 ft. B., 68.9 ft. D. (mean), 23.6 ft. Disp., 9648 tons.

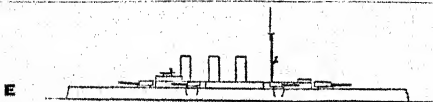
I.H.P. *San Marco*, 19,725=23 kts.; *San Giorgio*, 17,755=22.5 kts. Coal cap., 689/1535 tons.

Engines: *San Marco*, Parsons turbines; *San Giorgio*, 2 sets 3 expans., both by Ansaldo. Boilers: *San Marco*, Babcock & Wilcox; *San Giorgio*, Blechynden.

Trials: *San Marco*, I.H.P. = kts.; *San Giorgio*, I.H.P. 19,328=23.4 kts.

Armour: Terni. Complete belt, 7.9 in. amidships, 3.1 in. at ends; lr. dk. side amidships for 280 ft., 7.1 in. to 6.3 in.; main dk. side amidships for abt. 90 ft., 7.1 in.; main turrets, 7.1 in.; barbettes, 6.3 in.; secondary turrets, 6.3 in.; C.T., 9.8 in.; deck, sloping, 1.8 in.

Armament: 4—10 in. (45 cal.) in pairs in turrets f. and a.; 8—7.5 in. (45 cal.) in pairs in turrets; 18—3 in. (14 pr.); 2—3 pr.; 2 M. Torpedo tubes, 3—18 in. submerged, broadside and stern. Compt. 698.



**AMALFI** . . . . . Sestri Ponente, 5.5.08. Laid down, 5.7.05  
**PISA** . . . . . Leghorn, 14.9.07 " 20.2.05

L., p.p. 426.5 ft. Disp., 9958 tons. I.H.P. 18,740=22.5 kts.

Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Trials: *Amalfi*, I.H.P. 19,775=22.5 kts.; *Pisa*, I.H.P. 20,528=23.3 kts.

Armour: As in *San Marco* class, but main deck side armour is a little longer; main turrets are 8 in.; and deck is 2 in.

Armament: As in *San Marco* class, but only 16—3 in.

Compt. 684.



## F

<b>FRANCESCO FERRUCCIO</b>	Venice,	23.4.02.	Laid down, 1899
<b>VARESE</b>	Leghorn,	6.8.99.	„ 15.9.98
<b>GIUSEPPE GARIBALDI</b>	Sestri Ponente,	29.6.99.	„ 21.9.98

L., p.p. 344.5 ft. B., 59.6 ft. D. (mean), 23.3 ft. Disp., 7234 tons.

I.H.P. 13,315=20 kts. Coal cap., 610/1378 tons.

Engines: 2 sets 3 expans. *Francesco Ferruccio* by Hawthorn, Guppy, & Co.; others by builders. Boilers: *Varese*, Belleville; others, Niclausse.

Trials: *Francesco Ferruccio*, I.H.P. 13,449=20 kts.; *Varese*, I.H.P. 13,696=20.2 kts.; *Garibaldi*, I.H.P. 14,512=19.7 kts.

Armour: Terni. Complete belt, 6 in. amidships, 2.8 in. at ends; bulkheads, 4.7 in.; lower deck side amidships, battery turrets, barbettes, and C.T., 6 in.; deck, sloping, 1.6 in.

Armament: 1-10 in. (45 cal.) in turret forward; 2-8 in. (45 cal.) in turret aft.; 14-6 in. (40 cal.), four in shields, ten in battery; 10-3 in. (12 pr.); 6-3 pr.; 2-1 pr. Torpedo tubes, 4-18 in. above water, broadside, behind 6-in. armour.

Compt. 550.

The following note on the ships of this class may be useful:—

<i>G. Garibaldi</i>	(1)	built for Italy.	Now Argentine <i>Garibaldi</i> .
„	(2)	„	Spanish <i>Cristobal Colon</i> (sunk 1898).
„	(3)	„	Now Argentine <i>Pueyrredon</i> .
„	(4)	„	Retained by Italy.
<i>Varese</i>	(1)	„	Now Argentine <i>San Martin</i> .
„	(2)	„	Now Argentine <i>Belgrano</i> .
„	(3)	„	Retained by Italy.
<i>Rivadavia</i>		built for Argentina.	Now Japanese <i>Kasuga</i> .
<i>Moreno</i>	„	„	Now Japanese <i>Nisshin</i> .



G

**CARLO ALBERTO** . Spezia, 23.9.96. Laid down, 1893  
**VETTOR Pisani** . Castellamare, 14.8.95. „ 7.12.92

L., p.p. 324.7 ft. B., 59.1 ft. D. (mean), 22.9 ft. Disp., 6397 tons.  
 I.H.P. 12,820=19 kts. Coal cap., 590/984 tons. Oil, tons.  
 Engines: 2 sets 3 expans. *Carlo Alberto* by Ansaldo (Maudslay design); *Vettor Pisani* by Hawthorn, Guppy. Boilers, cylindrical.

Armour: Harvey nickel. Complete belt, 6 in. amidships, 4.3 in. at ends; lower deck side amidships for 137 ft., battery, and C.T., 6 in.; deck, sloping, 1.5 in. to .9 in.; upper deck over battery, 2 in.

Armament: 12-6 in. (40 cal.), four in shields on upper deck, eight in battery; 6-4.7 in. (40 cal.) in shields, one forward, one aft, four amidships; 14-6 pr.; 2-1 pr.; 1 M. Torpedo tubes, 4-18 in. above water.

Compt. 480.

(*Carlo Alberto*, Torpedo School Ship.)

G

**MARCO POLO** . . . Castellamare, 1892

L., p.p. 327 ft. B., 48.2 ft. D. (mean), 19.5 ft. Disp., 4511 tons.  
 I.H.P. 10,455=19 kts. (Trials, 17.8 kts.). Coal cap., 620 tons.

Engines: 2 sets 3 expans. by Ansaldo. Boilers, cylindrical.

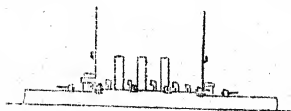
Armour: Steel. Belt for 214 ft. 3.9 in.; bulkheads, 3.9 in.; lower deck and main deck side amidships, 3.9 in.; deck, flat, 1 in.

Armament: 6-6 in. (40 cal.) in shields; 10-4.7 in. (40 cal.) in shields; 9-6 pr.; 2-1 pr.; 1 M. Torpedo tubes, 4-18 in. above water.

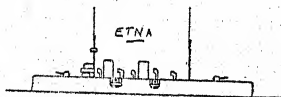
Compt. 317.

## PROTECTED CRUISERS.

I **MIRABELLO** . . . . . To be laid down, 1914  
 . . . . . " " "  
 Disp. (about) 5000 tons.

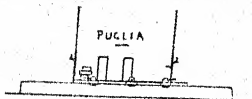


I **LIBIA** . . . Genoa (Ansaldo), 5.11.12 (*ex* Turkish *Drama*)  
 L., 341.2 ft. B., 47.6 ft. D. (mean), 18 ft. Disp., 3740 tons.  
 I.H.P. 12,330=22 kts. Coal cap., 590 tons.  
 Engines: 2 sets 3 expans. Boilers, Niclausse.  
 Armour: deck, 3.9 in.  
 Armament: 2-6 in. (45 cal.); 8-4.7 in. (50 cal.). Torpedo  
 tubes, 2-18 in. submerged, broadside.  
 Compt. 300.  
 (Laid down for Turkey, but seized while building.)



I **ETNA** . . . Castellamare, 1885  
 L., p.p. 283.5 ft. B., 42.6 ft. D. (max.), 20.3 ft. Disp.,  
 3474 tons.  
 I.H.P. 6085=17 kts. Coal cap., 590 tons.  
 Engines: 2 sets 3 expans. by Ansaldo. Boilers, cylindrical.  
 Armour: deck, 2 in.; C.T., 1 in.  
 Armament: 4-6 in.; 2-4.7 in.; 2-3 in. (12 pr.); 4-6 pr.;  
 2-3 pr.; 2-1 pr.; 1 M. Torpedo tubes, 2 above water.  
 Compt. 310.  
 (Training Ship for Cadets.)

## ITALY: CRUISERS

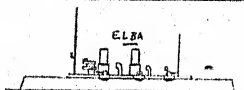


**J PUGLIA . . . . . Taranto, 26.9.98**

L., p.p. 273 ft. B., 40.7 ft. D. (max.), 17 ft. Disp., 2500 tons.  
 I.H.P. 7400=18.5 kts. Coal cap., 640 tons. Oil, tons.  
 Engines: 2 sets horizontal 3 expans. by Orlando. Boilers, cylindrical.

Armour: Deck, 2 in. to 1 in.

Armament: 6-4.7 in.; 6-6 pr.; 2-1 pr.; 2 M. Torpedo tubes, 2 above water. Compt. 257.



**J ELBA . . . . . Castellamare, 1893. Sheathed and coppered**

L., p.p. 273 ft. B., 42.6 ft. D. (max.), 17.4 ft. Disp., 2689 tons. Coal cap., 492 tons. Oil, tons.

Engines by Hawthorn, Guppy, & Co. Compt. 257.  
 (Otherwise same as *Puglia*, but only 4-6 pr.)  
 (Balloon Ship.)



**J LIGURIA . . . . . Sestri Ponente, 3.6.93**

**ETRURIA . . . . . Leghorn, 23.4.91**

**LOMBARDIA . . . . . Castellamare, 12.7.90**

L., p.p. 262.4 ft. B., 39.4 ft. D. (max.), 16.7 ft. Disp., 2245 tons. Coal cap., 453 tons.

Engines: *Lombardia* by Hawthorn, Guppy, & Co.; others by builders. Compt. 230.

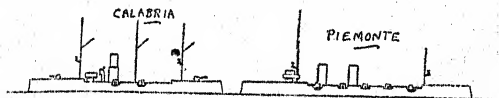
(Otherwise same as *Puglia*.)

(*Liguria*, Balloon Ship; *Lombardia*, Mother Ship for Submarines.)

**J****BASILICATA** . . . . . Castellamare, bldg. Laid down, 1912**CAMPANIA** . . . . . " " " "Length, 252 ft. Beam, 41.6 ft. Draught (mean), 17.7 ft.  
Disp., 2560 tons.

I.H.P. 3955=16 kts. Coal cap., 492 tons.

Armour: Deck, 1 in.

Armament: 6-6 in. (45 cal.); 6-3 in. (14 pr.); 2-6 pr.; 2 M.  
(For Foreign Service.)**J CALABRIA** . . . . . Spezia, 20.9.94. Sheathed and zincd

L., p.p. 249.3 ft. B., 41.9 ft. D. (max.), 17.7 ft. Disp., 2453 tons.

I.H.P. 3945=16 kts. Coal cap., 522 tons. Oil, tons.

Engines: 2 sets horiz. 3 expans. by Hawthorn, Guppy, &amp; Co.

Armour: Deck, 2 in. to 1 in.

Armament: 6-4.7 in.; 6-6 pr.; 2-1 pr.; 2 M. Torpedo tubes, 2 above water.

Compt. 224.

**J PIEMONTE** . . . . . Elswick, 30.8.88

L., p.p. 300 ft. B., 38 ft. D. (max.), 16.7 ft. Disp., 2600 tons.

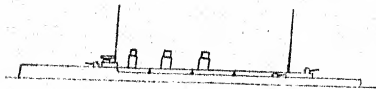
I.H.P. 11,835=22 kts. Coal cap., 200/500 tons.

Engines: 2 sets 3 expans. by Humphrys &amp; Tennant.

Armour: Deck, 3 in. to 1 in.; C.T., 3 in.

Armament: 10-4.7 in.; 6-6 pr.; 2-1 pr.; 2 M. Torpedo tubes, 3 above water.

Compt. 300.



## SCOUTS.

## K

**QUARTO** . . . . . Venice, 19.8.11. Laid down, 11.11.09

L., p.p. 431 ft.; o.a. 460.2 ft. B., 42 ft. D. (mean), 12.7 ft.  
Disp., 3248 tons.

I.H.P. 22,195=28 kts. Oil, 443/787 tons.

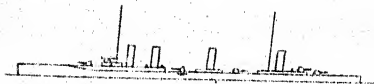
Engines: Parsons turbines by Odero. Boilers, Blechynden.

Armour: Deck, 1.6 in. to .8 in.

Armament: 6-4.7 in. (50 cal.); 6-3 in. (14 pr.). Torpedo tubes, 2-18 in. above water.

Compt. 240.

(Fitted for Mine-laying.)



## K

**NINO BIXIO** . . . . . Castellamare, 30.12.11. Laid down, 15.2.11

**MARSALA** . . . . . " 24.3.12 " 15.2.11

L., p.p. 431 ft.; o.a. 460.2 ft. B., 42.6 ft. D. (mean), 13.7 ft.  
Disp., 3543 tons.

I.H.P. 24,665=29 kts. Oil, 443/787 tons.

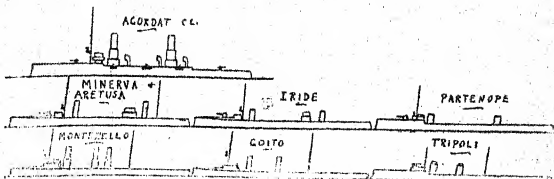
Engines: Curtis turbines by Offic. Mechan., Naples. Boilers, Blechynden.

Armour: Deck, 1.6 in. to .8 in.

Armament: 6-4.7 in. (50 cal.); 6-3 in. (14 pr.). Torpedo tubes, 3-18 in. above water.

Compt. 240.

(Fitted for Mine-laying.)



## TORPEDO GUNBOATS.

**L** **AGORDAT** . . . Castellamare, 11.10.99. Laid down, 2.97  
**COATIT** . . . 15.11.99. " 6.4.97

L., p.p. 288.7 ft. B., 30.5 ft. D. (max.), 14 ft. Disp., 1292 tons.  
 I.H.P. 7890 = 23 kts. Coal cap., 157/266 tons. Oil, 30 tons.

Engines: *Agordat* by Pattison; *Coatit* by Odero. Boilers, Blechynden.

Armour: Deck, 8 in.

Armament: 12-3 in. (12 pr.). Torpedo tubes, 2 above water.  
 Compt. 184.

**L**  
**IRIDE** . . . Castellamare, 7.91 **MINERVA** . Sestri Ponente, 2.92  
**PARTENOPE** . . . 11.89 **ARETUSA** . Leghorn, 3.91  
 L., p.p. 229.6 ft. B., 26.9 ft. D., 12 to 13 ft. Disp., 821 to 902 tons.

I.H.P. 4140 = 19 to 20 kts. Coal cap., 118 to 177 tons.

Armour: Deck, 1.5 in. to 1 in.

Armament: 1-4.7 in.; 6-6 pr.; 3-1 pr. Torpedo tubes, 5 above water.  
 Compt. 95 to 105.

(*Partenope* and *Minerva* fitted as Mine-layers.)

**L**  
**MONTEBELLO** Spezia, 1887 **GOITO** . . Castellamare, 1887  
**TRIPOLI** . . Castellamare, 23.8.86  
 L., p.p. 229.6 ft. B., 25.6 ft. D., 15 to 16.5 ft. Disp., 801 to 843 tons.

I.H.P. 3550 = 20 kts. Coal cap., 98/128 tons.

*Tripoli* has Belleville boilers (oil fuel). *Montebello* mixed W. T. boilers.

Armour: Deck, 1.5 in. to 1 in.

Armament: *Montebello*, 4-6 pr.; 5 tubes. *Goito*, 7-6 pr.; 5 tubes. *Tripoli*, 2-12 pr.; 4-6 pr.; 2-3 pr.; 3 tubes.

Compt. 95. (All fitted as Mine-layers.)



## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Brought.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Fuel.	Compt.
M*												
Alessandro Paoletti	bdg.	A	ft.	ft.	ft.	tns.		kts.			tns.	
Cesare Rossarol	bdg.	A	..	..	..	1000	..	..	..	..	..	..
Guglielmo Pepe	bdg.	A										
<b>M</b>												
Francesco Nullo	bdg.	P										
Antonio Mosto	bdg.	P										
Giuseppe Sirtori	bdg.	P										
Giacinto Carini	bdg.	P										
Rosolino Pilo	bdg.	O	239.5	23.9	9.2	680	17,760	30	T	..	..	..
Giuseppe Abba	bdg.	O										
Ippolito Nievo	bdg.	O										
Simone Schiassino	bdg.	O										
Pilade Bronzetti	bdg.	O										
Giuseppe Missori	bdg.	O										
Ardito	'12	O										
Ardente	'13	O										
Audace	'13	O										
Animoso	'13	O										
Impavido	'13	P	230.5	23.9	9.2	680	14,795	30	T	1-4.7 in.; 4-12 pr.; 2 tubes.	98	..
Impetuoso	'13	P										
Indomito	'12	P										
Insidioso	'13	P										
Intrepido	'12	P										
Irrequieto	'13	P										
<b>N</b>												
Ascaro	'12	A										
Alpino	'09	A										
Carabiniere	'09	A										
Fuciliere	'09	A										
Pontiere	'09	A										
Corraziere	'10	A	210	20	8.8	332	5,920	29	T	4-12 pr.; 3-18 in. tubes.	79	55
Garibaldino	'10	A										
Artigliere	'07	A										
Bersagliere	'06	A										
Granatiere	'06	A										
Lanciere	'07	A										
Espero	'04	P										
Zeffiro	'04	P										
Borea	'03	P	210	19.5	7.5	325	5,130	30	T	5-6 pr.; 4-18 in. t.	74	56
Aquilone	'02	P										
Turbine	'01	P										
Nembo	'01	P										
Ostro	'01	S										
Strale	'00	S	136.8	21.3	8.5	315	5,130	30	S	1-12 pr.; 5-6 pr.; 2-18 in. tubes.	79	58
Dardo	'00	S										
Euro	'00	S										
Lampo	'99	S										
Fulmine	'98	O	200	21	8.8	293	4,735	28	B1	5-6 pr.; 3 tubes.	59	48

NOTES.—Builders: A=Ansaldo; O=Odero; P=Pattison, Naples; S=Schichau. Boilers: T=Thornycroft; S=Schichau; B1=Blechnyden. *Impavido* class have Zoelly turbine engines. *Alpino*, *Carabiniere*, *Fuciliere*, and *Pontiere* burn oil fuel. Three of the new boats will have internal combustion engines.

## TORPEDO BOATS.

[illegible]

## TORPEDO BOATS—II. CLASS.

P

NOS. 68, 80, 82, 88, 90, 98, 101, 102, 104, 105, 114, 115, 128, 133, 134,  
146 (16 boats). Built, 1886-1894 by Schichau or in Italy.

L., 127.6 ft. B., 15.5 ft. D., 6.6 ft. Disp., 84 tons.

I.H.P. 1085=20 kts. Coal cap., 17 tons.

Armament: 2-1 pr. ; 2-14 in. tubes. Compt. 17.

## TORPEDO BOATS—III. CLASS.

Q

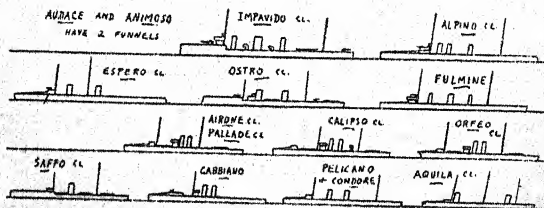
NOS. 29, 31, 38, 43, 48, 48, 56 (7 boats). Built, 1882-86, by Thornycroft,  
or in Italy.

L., 100 ft. B., 11.7 ft. D., 5.3 ft. Disp., 34 tons.

I.H.P. 430=21 kts. Coal cap., 7 tons.

Armament: 1-1 pr. ; 2-14 in. tubes. Compt. 10.

NOTES TO TORPEDO BOATS.—The two newest boats will have internal combustion engines. All I. class boats except *Pelicano* and *Condore* have twin screws. *Gabbiano* burns oil fuel. Builders: P=Pattison; O=Odero; A=Ansaldo; S=Schichau; Z=Spezia D.Y. Boilers: T=Thornycroft; Bl=Blechynden; S=Schichau; N=Normand; L=Locomotive.



## SUBMARINES.

Name.	Date.	Builder.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Tubes.	Compt.
<b>S</b>			ft.	ft.	tons		kts.		
6 boats . . .	pro.	..	..	..	..	..	..	..	..
Giacinto	'13	S	..	..	..	..	..	..	..
Pullino	'14	S	..	..	304/403	1500/	18/14	6	..
Galileo	'14	S	..	..	304/403	1500/	18/14	6	..
Ferraris	'13	V	134.5	14.1	221/315	..	16/9	2	17
Nautilus . . .	'13	V	134.5	14.1	221/315	..	16/9	2	17
Nereide . . .	'12	G	146	14.4	230/315	590/	14-7/8	2	..
Atropo . . .	'12	S	..	..	..	..	..	..	..
Argo . . .	'12	S	..	..	..	..	..	..	..
Jalea . . .	'12	S	..	..	..	..	..	..	..
Fisalia . . .	'12	S	..	..	..	..	..	..	..
Jantina . . .	'12	S	..	..	..	..	..	..	..
Medusa . . .	'11	S	..	..	241/295	..	13/8	2	..
Salpa . . .	'12	S	..	..	..	..	..	..	..
Velella . . .	'11	S	..	..	..	..	..	..	..
Zosa . . .	'12	S	..	..	..	..	..	..	..
Foca . . .	'08	S	137.7	14.1	177/226	740/255	15/9	2	17
Trichecho . . .	'08	V	118	13.7	148/173	590/150	14/7	2	15
Otaria . . .	'08	V	118	13.7	148/173	590/150	14/7	2	15
Narvalo . . .	'07	V	..	..	..	..	..	..	..
Squalo . . .	'06	V	118	13.7	148/173	670/150	14/7	2	15
Glauco . . .	'05	V	..	..	..	..	..	..	..
Delfino . . .	'94/'02	S	78.5	10.1	94/110	150/	6	1	11

NOTES.—Builders: S=Spezia; V=Venice; G=Germania, Kiel. *Giacinto* Pullino and *Galileo* Ferraris designed by Cavallini; *Nautilus* and *Nereide* by Bernardi; *Atropo* by Krupp; *Delfino* by Pullini; others by Laurenti. *Foca* and *Delfino* have benzine motors for surface use; *Trichecho* and *Otaria*, Thornycroft paraffin motors; *Narvalo*, *Squalo*, and *Glauco*, F.I.A.T. petrol motors; *Argo* class, Diesel motors.

## SUBVENTIONED MERCHANT CRUISERS.

Names.	No. of Screws.	Built.	Length.	Beam.	Draught.	Registered Tonnage.	I.H.P.	Speed.
<b>T</b>								
<i>Lloyd Italiano:—</i>			ft.	ft.	ft.	tons.		kts.
Principessa Mafalda	2	'09	492	55.9	25.3	10,000	9,000	18.5
<i>Societa di Navigazione a Vapore Italia:—</i>								
Ancona . . . .	2	'08	482	59	23.7	8,885	7,100	17
Verona . . . .	2	'08	482	59	23.7	8,886	7,200	17
<i>La Veloce-Navigazione Italiana:—</i>								
America . . . .	2	'09	504	55.8	22.6	9,500	7,625	17
Oceania . . . .	2	'09	476	55.9	23.7	..	7,000	17
Europa . . . .	2	'07	430	52.6	24.7	7,870	7,055	13
<i>Lloyd Sabando:—</i>								
Re d'Italia . . .	2	'07	430	52.6	..	6,149	..	17
Regina d'Italia .	2	'07	430	52.6	..	5,204	..	13
Principe di Piemonte	2	'07	430	52.6	..	5,204	..	13
Tomaso di Savoia .	2	'07	449	55.9	..	7,914	..	17
Principe di Udine .	2	'08	449	55.9	..	7,785	..	17
<i>Navigazione Generale Italiana:—</i>								
Re Vittorio . . .	2	'07	453	52.6	26	7,600	7,200	17
Duca di Genova .	2	'07	476	52.6	26	7,800	7,200	17
Duca degli Abruzzi .	2	'07	476	52.6	26	7,793	7,200	17
Regina Elena . . .	2	'07	453	52.6	26	7,356	7,200	17
Duca d'Aosta . . .	2	'08	472	52.6	26	7,600	7,200	17
Principe Umberto .	2	'09	453	52.6	26	7,600	7,200	17

Armament : 4-4.7 in. Q.

*Europa*, *Regina d'Italia*, and *Principe di Piemonte* to serve as hospital ships.

# ITALY: SUBVENTIONED MERCHANT CRUISERS 275

## Subventioned Merchant Cruisers—continued.

T	Names.	No. of Screws.	Built.	Length.	Beam.	Draught.	Registered Tonnage.	I.H.P.	Speed.
	<i>Navigazione Generale Italiana—</i> (continued):			ft.	ft.	ft.	tons.		kts.
	Regina Margherita.	1	'84	380	42.7	24.3	3577	5720	16
	Galileo Galilei . . .	1	'06	268	36	16.1	1664	4002	16
	Marco Polo . . .	1	'06	268	36	16.1	1662	3917	16
	Umberto I. . .	1	'78	344	39.5	23	2881	2257	15
	Cristoforo Colombo .	1	'95	268	36	16.1	1662	4190	16
	Elettrico . . .	1	'87	250	32.9	19	1356	3049	15
	Candia . . .	1	'02	250	27.10	19	1046	1393	13
	Bosnia . . .	1	'98	308	39.5	20.4	2450	1675	12
	Bulgaria . . .	1	'98	308	39.5	20.4	2450	1667	12
	Montenegro . . .	1	'98	308	39.5	20.4	2450	1600	12
	Romania . . .	1	'98	308	39.5	20.4	2450	1700	12
	Serbia . . .	1	'98	308	39.5	20.4	2548	1700	12
	<i>State Mail Steamers:—</i>								
	Messina . . .	2	'10	..	..	..	3500	..	19
	Siracusa . . .	2	'10	..	..	..	3500	..	19
	Catania . . .	T	'10	..	..	..	3500	..	23
	Palermo . . .	T	'10	..	..	..	3500	..	23
	Caprera . . .	2	'10	..	..	..	2400	..	17
	Cagliari . . .	2	'10	..	..	..	2400	..	17
	Sassari . . .	2	'10	..	..	..	2400	..	17

Armament: *Regina Margherita* to *Serbia* inclusive, 2–6 pr. Q.;  
4–1 pr. machine.



H

**LEPANTO** . . . . . Leghorn, 17.3.83  
**ITALIA** . . . . . Castellamare, 29.9.80

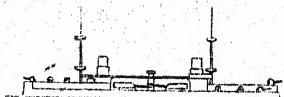
L., p.p. 400.4 ft. B., 74 ft. D. (max.), 33 ft. Disp., 15,650 tons. Coal cap., 1180/2953 tons.

I.H.P. *Lepanto*, 14,795=18.5 kts.; *Italia*, 11,345=17.5 kts.

Armour: Compound. Deck, 3 in.; funnel bases, 16 in.; barbettes, 19 in.

Armament: 4-17 in. (old) in pairs in a diagonal athwartships barrette; 8-6 in.; 4-4.7 in. and smaller guns. Torpedo tubes, 4 above water.

(Coast Defence Ships: *Lepanto* at Derna, *Italia* at Taranto.)



D

**DANDOLO** . . . . . Spezia, 10.7.78. Reconstructed, 1896

L., 340.9 ft. B., 64.7 ft. D. (mean), 27.3 ft. Disp., 12,265 tons. I.H.P. 8100=16 kts. Coal cap., 1000 tons.

Armour: Steel. Short partial belt, 21.6 in.; redoubt amidships, 16.9 in.; bulkheads, 15.7 in.; turrets (Harvey), 10 in.; deck, 2 in.

Armament: 4-10 in. (40 cal.) in pairs in turrets, diagonally amidships, 7-6 in. (32 cal.); 5-4.7 in. (35 cal.); 16-6 pr.; 8-1 pr.; 2 M. Torpedo tubes, 4 above water.

(Coast Defence Ship at Tobruk.)

## SCHOOLSHIPS.

**J AMERIGO VESPUCCI** . . . . . Venice, 1882  
**FLAVIO GIOIA** . . . . . Castellamare, 1881

L., p.p. 255.8 ft. B., 41.8 ft. D. (max.): *Vespucci*, 21.5 ft.;  
*Gioia*, 22 ft. Disp.: *Vespucci*, 2662 tons; *Gioia*, 3016 tons.  
 I.H.P. *Vespucci*, 3395=14 kts.; *Gioia*, 4100=15 kts. Coal cap.,  
 492 tons. Oil, tons.

Armour: Deck amidships, 1.5 in.

Armament: 4-4.7 in.; 4-6 pr.; 4-1 pr.; 2 M. Torpedo  
 tubes, 2 above water.

Compt. 181.

(Navigation School Ships.)

## GUNBOATS.

**R**  
**SEBASTIANO CABOTO** . . . . . Palermo, 1912

L., 196.8 ft. B., 31.8 ft. D. (mean), 9.2 ft. Disp., 798 tons.

I.H.P. 1970=13 kts. Coal cap., 88 tons.

Armament: 6-3 in. (14 pr.); 4 M.

Compt. 100.

(For South America.)

**R**  
**GOVERNOLO** . . . . . Venice, 1894. Sheathed and coppered

L., p.p. 183.7 ft. B., 32.8 ft. D. (max.), 15.4 ft. Disp.,  
 1203 tons.

I.H.P. 1085=12 kts. Coal cap., 236 tons.

Armament: 4-4.7 in. (old); 4-6 pr.; 2-1 pr.; 2 M.

Compt. 137.

**R**  
**VOLTURNO** . . . . . Venice, 1887

L., p.p. 177.2 ft. B., 32.8 ft. D. (max.), 15.1 ft. Disp., 1156 tons.

I.H.P. 1085=12 kts. Coal cap., 203 tons.

Armament: 4-4.7 in. (old); 4-6 pr.; 2-1 pr.; 2 M.

Compt. 181.



## SURVEYING SHIP.

X

AMMIRAGLIO MAGNACHI . . . Sestri Ponente, building

Disp., 1770 tons.

Speed, 14 kts.

Armament: 4-3 in. (14 pr.).

## SUBMARINE SALVAGE SHIP.

W

1 ship . . . . . Building

## FLEET COLLIER.

W

BRONTE . . . Leghorn, 1904. STEROPE . . . Leghorn, 15.1.05

L., 381 ft. B., 46 ft. D. (max.), 24.6 ft. Disp., 9340 tons.  
I.H.P. 3945=15 kts. Carry 6000 tons of coal or 4000 tons of oil.

Armament: 4-6 pr.

Compt. 123.

## REPAIR SHIP.

W

VULCANO . . . . . 1885 (ex *Savoia*)L., 276 ft. B., 42.5 ft. D. (max.), 20 ft. Disp., 2805 tons.  
I.H.P. 3300=14 kts. Coal cap., 492 tons.

Armament: 4-6 pr.

Compt. 152.

## ROYAL YACHT.

X

TRINACRIA . . . . . Clydebank, 1884 (ex *America*, bought 1887)L., o.a. 441.6 ft. B., 51.2 ft. D. (mean), 25.5 ft. Disp., 9062 tons.  
I.H.P. 6035=18.5 kts. Coal cap., 1525 tons.

Armament: 4-6 pr. ; 4-1 pr. ; 2 M. One torpedo tube.

Compt. 198.

## MISCELLANEOUS.

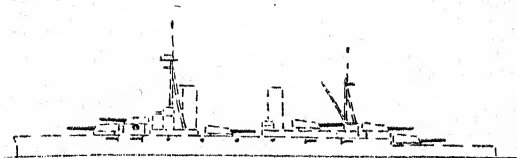
Name.	Date.	Length.	Beam.	Disp.	I.H.P.	Description.
<b>X</b>		ft.	ft.	tons.		
Miseno . . . . .	'86	138	25	552	425	} Training Ships
Palinuro . . . . .	'86	138	25	552	425	
Giovanni Bausan . . . . .	'83	278	42	3330	5850	} ex Cruiser
Staffetta . . . . .	'76	253	31	1388	1675	
AgostinoBarbarigo)						} Surveying Ship
Marcantonio	'79	216	24	646	1675	
Colonza)						} Gunnery School;
Guardiano . . . . .	'74	100	27	255	355	
Brondolo . . . . .	'00	125	20	105	445	} Wireless Tele-
Malghera . . . . .	'09	125	20	105	445	
No. 2 . . . . .	'..	105	18	88	66	} graphy School
Stella Polare . . . . .	'83	150	30	353	..	
Mestre . . . . .	'74	101	21	276	250	} ex Gunboat
Murano . . . . .	'74	101	21	276	250	
Verbano . . . . .	'08	226	33	3000	..	} Lagoon Paddle
Capitano Verri	..	..	..	..	..	
(ex Thetis)	..	..	..	..	..	} Steamers
Bengazi (ex Derna)	..	..	..	..	..	
Citta di Milano . . . . .	'86	230	32	2100	890	} ex Arctic Explor-
Garigliano . . . . .	'87	187	28	935	550	
Volta . . . . .	'83	270	32	2450	2500	} Ship
Galileo Galilei . . . . .	'87	230	26	900	800	
Giuliana . . . . .	..	..	..	..	..	} Transport
Misurata . . . . .	..	..	..	..	..	
Tobruk . . . . .	..	..	..	..	..	} Mining Transport
Archimede . . . . .	..	..	..	..	..	
Ercole . . . . .	'92	167	27	765	1700	} Transport
Atlante . . . . .	'92	167	27	765	1700	
Tevere . . . . .	'97	172	26	945	580	} Coastguard Ser-
Verde . . . . .	'77	125	22	385	150	
Pagano . . . . .	'77	125	22	385	150	} vice in Tripoli
Antilope . . . . .	..	..	..	60	..	
Gazzella . . . . .	..	..	..	56	..	} Constantinople
Capriolo . . . . .	..	..	..	35	..	
Zebra . . . . .	..	..	..	30	..	} Tugs
Camoscio . . . . .	..	..	..	22	..	
Daino . . . . .	..	..	..	86	..	} Tank Ships
Ciclope . . . . .	..	177	29	840	..	
						} Launches in the
						} Red Sea
						} Despatch Vessel

## HARBOUR SERVICE.

Name or No. X Z	Date.	Length.	Beam.	Disp.	I.H.P.	Service.	
		feet	feet	tons			
Eridano . . .	bdg. '09	173.10	28.6	1170	1100	Watershp	
Venezia <sup>1</sup> . . .	'05	211.6	34.6	1000	350	Dredger	
Simeto . . .	'93	...	...	185	...	Tank	
Brenta . . .	'05	80.6	17	175	100	Tanks	
Crati . . .	'94						
Liri . . .	'96						
Polcevera . . .	'94						
Po . . .	'94	...	...	171	...	Tank	
Sile . . .	'02						
Velino . . .	'90	72	16.6	120	80	Tanks	
Mincio . . .	}	72	16.6	120	80	Tanks	
Ticino . . .							
Tronto . . .	'90	72	16.6	120	80	Tanks	
Bormida. . .	'90	60.6	15.6	80	15	Tank	
Arno . . .	'88	60.6	15	78	15	Tanks	
Adige . . .	'86						
Bisagno . . .	'89						
Sarno . . .	'88						
Sebeto . . .	'89	42	13	40	25	Tank	
Tanaro . . .	'85						
Giglio . . .	bdg. '89	183.8	30.9	840	1850	Tug	
Castore . . .	'89	115	37	550	390	Hoppers	
Polluce . . .	}	...	...	450	100		
Viterbo . . .							
Nos. 2-5, 7, 10, 11 . . .	'93	75	...	120	190	Tugs	
Nos. 21-24 . . .	'85-'93	64	...	85	105		
Nos. 11, 16 . . .	'86-'92	69	...	53-62	100-110		
Nos. 2, 3, 5-7, 12-15 . . .	'90	84	...	...	120	Tugs	
No. 19 . . .	'86-'90	...	...	25-50	60-110		
Nos. 1, 4, 8-10, 18, 20 . . .	'03	177	29.5	840	2300	Tug	
Ciclope . . .	'05	...	...	...	...	Tugs	
3 boats . . .		...	...	...	...		

<sup>1</sup> Hopper and Suction Dredger, raises 500 tons with buckets, or 1200 tons by suction per hour.

## JAPAN



## BATTLESHIPS.

A\*

FUSO	.....	Kure,	23.3.14.	Laid down,	11.3.12
—	.....	Yokosuka,	bdg.	„	20.11.13
—	.....	Nagasaki,	„	„	1914
—	.....	Kobe,	„	„	„

Disp. (about) 30,000 tons.

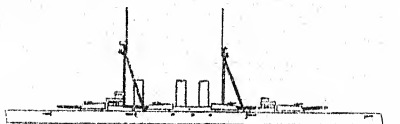
I. H.P. 45,000 = 22 kts.

Engines: Turbines.

Armour:

Armament: 12-14 in. (45 cal.); 16-6 in. (50 cal.).

Compt.

**A**

**SETTSU** . . . . . Kure. C. 10.12. L. 30.3.11. B. 1.4.09  
**KAWACHI**. . . . . Yokosuka. „ 8.12. „ 15.10.10. „ 18.1.09

L., p.p. 480 ft. B., 86 ft. D. (mean), 28 ft. Disp., 20,800 tons.

I.H.P. 25,500=20.5 kts. Coal cap., 924/2300 tons. Oil, tons.

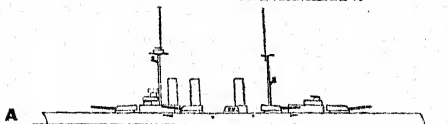
Engines: *Settsu*, Parsons turbines (4 screws); *Kawachi*, Curtis turbines (3 screws). Boilers, Miyabara.

Trials: *Settsu*,  
*Kawachi*, I.H.P. ——— = 21.5 knots. ;

Armour: Krupp. Complete belt, 12 in. amidships, tapering to 5 in. at ends; lower deck side amidships, 9 in.; turrets and barbettes, 9 in.; battery, 8 in. to 6 in.; C.T., 12 in.; deck, sloping, 2 in.

Armament: 12—12 in. (50 cal.) in pairs in turrets f. and a. and two on each beam; 10—6 in. (50 cal.) in battery; 10—4.7 in. (50 cal.); 4—3 in. (14 pr.); 4 M. Torpedo tubes, 5—18 in. submerged, broadside and stern.

Compt. 960.



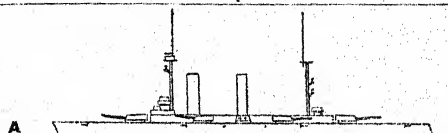
**AKI** . . . . Kure. C. 1.4.11. L. 15.4.07. B. 15.3.05.  
L., p.p. 492 ft. B., 83.5 ft. D. (mean), 27.5 ft. Disp., 19,800 tons.  
I.H.P. 25,000=20.5 kts. Coal cap., 700/3000 tons. Oil,

Engines: Curtis turbines (2 screws) by Fore River Co.  
Boilers, Miyabara.

Trials: I.H.P. 27,740=20.2 kts.

Armour: Krupp. Complete belt, 9 in. amidships, tapering to 6 in. forward and 4 in. aft; lower deck side, 8 in. amidships, tapering to 6 in. forward; main turrets, 8 in.; barbettes, 12 in.; secondary turrets, 8 in.; barbettes, 7 in.; battery, 6 in.; C.T., 12 in.; deck, sloping, 3 in. to 2 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 12-10 in. (45 cal.) in pairs in turrets on beam; 8-6 in. (50 cal.) in battery; 8-3 in. (14 pr.); 4 M. Torpedo tubes, 5-18 in. submerged, broadside and stern.  
Compt. 940.



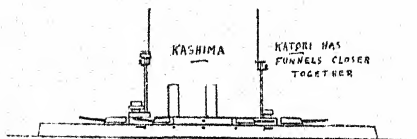
**SATSUMA** . . . . Yokosuka. C. 1.4.10. L. 15.11.06. B. 15.5.05.  
L., p.p. 482 ft. B., 83.5 ft. D. (mean), 27.5 ft. Disp., 19,250 tons.  
I.H.P. 18,500=20 kts. Coal cap., 700/3000 tons. Oil,

Engines: 2 sets 3 expans. by builders. Boilers, Miyabara.  
Armour: As in *Aki*.

Armament: 4-12 in. and 12-10 in. as in *Aki*; 12-4.7 in. (50 cal.); eight in battery, two forward, two aft; 4-3 in. (14 pr.); 4 M. Torpedo tubes as in *Aki*.

Compt. 940.

(Some accounts give both ships a tertiary armament of 12-6 in. and 4-3 in.)



## B

KATORI . . . . .	Barrow, 4.7.05.	Laid down,	2.04
KASHIMA . . . . .	Elswick, 22.3.05.	„	29.2.04

L., p.p. 420 ft. ; o.a. 455 ft. B., 78.2 ft. D. (mean), 27 ft.  
Disp., 16,400 tons.

I.H.P. 16,000=18.5 kts. Coal cap., 750/2150 tons.

Engines : 2 sets 3 expans. *Katori* by builders, *Kashima* by  
Humphrys, Tennant, & Co. Boilers, Niclausse.

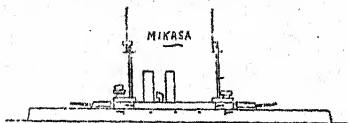
Trials : *Katori*, I.H.P. 18,500=20.2 kts. ; *Kashima*, I.H.P.,  
17,280=19.2 kts.

Armour : Krupp. Complete belt, 7.5 ft. wide, 9 in. amidships,  
tapering to 4 in. at ends ; lower deck side, 6 in. amidships,  
tapering to 4 in. forward ; bulkheads, 9 in. to 6 in. ; main  
turrets and barbettes, 9 in. ; secondary turrets and barbettes,  
8 in. to 6 in. ; battery, 6 in. ; casemates, 4 in. ; C.T., 9 in. ;  
S.T., aft, 5 in. ; deck, sloping, 3 in. to 2 in.

Armament : 4-12 in. (45 cal.) in pairs in turrets f. and a. ;  
4-10 in. (45 cal.) singly in turrets on beam ; 12-6 in.  
(45 cal.), eight in battery, two in casemates above battery ;  
12-3 in. (14 pr.) ; 3-3 pr. ; 6 M. Torpedo tubes, 5-18 in.  
submerged, broadside and stern.

Compt. 864.

C



**MIKASA** . . . . . Barrow, 8.11.00. Sunk by explosion, 10.9.05  
Refloated 8.8.06 and reconstructed.

L., p.p. 400 ft.; w.l. 415 ft.; o.a. 432 ft. B., 75.5 ft. D. (mean), 27.2 ft. Disp., 15,200 tons.

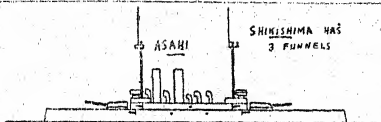
I.H.P. 15,000=18 kts. Coal cap., 700/1690 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Armour: Krupp. Complete belt, 7.5 ft. wide, 9 in. amidships, tapering to 4 in. at ends; bulkheads, 12 in.; lower deck side, amidships, 6 in.; turrets, 10 in. to 8 in.; barbettes, 14 in. to 10 in.; battery and casemates, 6 in.; screens in battery, 2 in.; C.T., 14 in.; deck, sloping, 3 in. to 2 in. (4 in. abreast of barbettes); main deck, 1 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 14-6 in. (45 cal.), twelve in battery, four in casemates above battery; 20-3 in. (12 pr.); 8-3 pr.; 4-2½ pr.; 8 M. Torpedo tubes, 4-18 in. submerged, broadside. Compt. 741.

C



**ASAHI** . . . . . Clydebank, 13.3.99. Laid down, 5.7.97  
**SHIKISHIMA** . . . . . Blackwall, 1.11.08. " 1.97

L., p.p. 400 ft.; o.a. 425.5 ft. B., 75.5 ft. Asahi, D. (mean), 27.2 ft. Disp., 15,200 tons; Shikishima, 27 ft. and 15,000 tons.

I.H.P. Asahi, 15,000; Shikishima, 14,500=18 kts. Coal cap., Asahi, 800/1400 tons; Shikishima, 700/1700 tons.

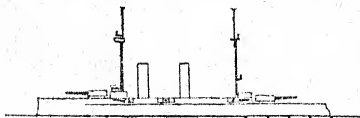
Engines: 2 sets 3 expans. Asahi by builders, Shikishima by Humphrys, Tennant, & Co. Boilers, Belleville.

Trials: Asahi, I.H.P. 16,360=18.3 kts.; Shikishima, I.H.P. 16,907=18.8 kts.

Armour: Harvey nickel. As in Mikasa, but belt, 8.1 ft. wide, and 6-in. guns all in casemates, eight on main and six on upper deck.

Armament: As in Mikasa, but 40 cal. guns; Shikishima has an above-water bow tube behind 6-in. armour.





## C

**IWAMI** . . . . Galernii Island, St. Petersburg, 19.7.02. Laid down, 11.6.00. Captured after the Battle of the Sea of Japan, 28.5.05. Rebuilt, 1907. (*ex Russian Orel.*)

L., p.p. 376.5 ft. ; o.a. 397 ft. B., 76 ft. D. (mean), 26 ft. Disp., 13,516 tons.

I.H.P. 15,800=18 kts. Coal cap., 750/1250 tons.

Engines: 2 sets 3 expans. by Baltic Works. Boilers, Belleville.

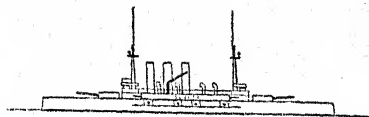
Trials: (1904) 17.6 kts., (1907) 18.3 kts.

Armour: Krupp. Complete belt, 6.8 ft. wide, 7.5 in. amidships, tapering to 5.7 at ends; lower deck side, 6 in. amidships, tapering to 4 in. at ends; turrets and bases, 10 in.; shields for 8-in. guns, 6 in.; C.T., 10 in.; deck, sloping, 2.3 in. to 1.7 in.; main deck, 1.5 in.; side amidships from belt to bilge, and lateral bulkheads, 1.2 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 6-8 in. (45 cal.) in shields on beam; 20-3 in. (12 pr.); 20-3 pr.; 8-1 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 750.

(This ship as originally built was much over her designed draught and displacement. Her reconstruction consisted mainly in the replacement of 12-6 in. in pairs in turrets, by 6-8 in. in shields at a lower level, and in the removal of all unnecessary superstructure.)

**C**

**HIZEN.** . . . Philadelphia, 23.10.00. Laid down, 12.98. Captured at Port Arthur, 2.1.05. Refloated, 22.9.05. (*ex Russian Retvizan.*)

L., p.p. 376 ft. B., 72.2 ft. D. (mean), 26 ft. Disp., 12,700 tons.

I.H.P. 16,000=18 kts. Coal cap., 1000/2000 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Nielausse.

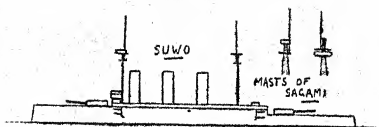
Trials: I.H.P. 16,121=18.8 kts.

Armour: Krupp. Belt from bow to after turret, 7.5 ft. wide, 9 in. amidships, 2 in. forward; bulkheads, 9 in.; lower deck, side amidships, 6 in.; battery and casemates, 5 in.; turrets, 10 in.; bases, 9 in.; C.T., 10 in.; deck, sloping, 3 in. to 2 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 12-6 in. (45 cal.), eight in battery, four in casemates above battery; 20-3 in. (12 pr.); 20-3 pr.; 6-1 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 750.

(This ship was torpedoed at Port Arthur, 9.2.04. She was repaired and was then badly damaged in the Battle of the Yellow Sea, 10.8.04. Later in the year she was sunk in the harbour of Port Arthur and passed into Japanese hands on the fall of that port. She was refloated and to some extent rebuilt.)



## C

**SAGAMI** . . . . . Baltic Works, St. Petersburg, 19.5.98. Laid down, 21.11.95. Captured at Port Arthur, 2.1.05. Refloated, 30.6.05. Reconstructed, 1908. (*ex* Russian *Peresviet*.)

**SUWO** . . . . . Baltic Works, St. Petersburg, 24.5.00. Laid down, 1.8.98. Captured at Port Arthur, 2.1.05. Refloated, 17.10.05. Reconstructed, 1908. (*ex* Russian *Pobyeda*.)

L., p.p. 426.5 ft.; o.a. 435 ft. B., 71.5 ft. D. (mean), 26 ft. Disp., 12,764 tons.

I.H.P. 14,500=19 kts. Coal cap., 1063/2058 tons. Oil, tons.

Engines: 3 sets 3 expans. by builders. Boilers, Belleville.

Trials: *Sagami*, I.H.P. 13,775=18.3 kts.; *Suwo*, I.H.P. 15,493=18.5 kts.

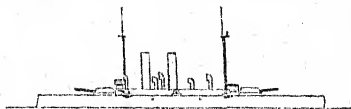
Armour: Harvey in *Sagami*, Krupp in *Suwo*. Belt, 7.5 ft. wide, to within 30 ft. of ends, 9 in. to 7 in. for *Sagami*; complete, 9 in. to 4 in. for *Suwo*; bulkheads, 7 in.; lower deck, side amidships, 4 in.; turrets, 9 in.; casemates, 4 in.; C.T., 6 in.; deck, sloping, 3.2 in. to 1.7 in.

Armament: 4-10 in. (45 cal.) in pairs in turrets f. and a.; 10-6 in. (45 cal.) in casemates; 16-3 in. (12 pr.); 26-3 pr. and 1 pr. Torpedo tubes, 2-18 in., submerged, broadside.

Compt. 732.

(Both these ships took part in the Battle of the Yellow Sea, 10.8.04. They were finally sunk in the harbour of Port Arthur and became Japanese on the fall of that port. After being refloated they were repaired and rearmed.)

C



**FUJI** . . . . . Blackwall, 31.3.96. Laid down, 1.9.94

L., p.p. 374 ft.; w.l. 390 ft.; o.a. 412 ft. B., 73.7 ft. D. (mean), 26.3 ft. Disp., 12,300 tons.

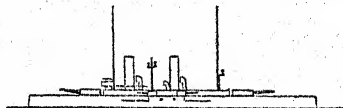
I.H.P. 13,690=18 kts. Coal cap., 700/1300 tons.

Trials: I.H.P. 14,100=18.5 kts. Boilers, cylindrical.

Armour: Harvey. Belt for 230 ft., 7.5 ft. wide, 18 in. to 14 in.; B.H., 14 in.; lower deck, side amidships, 4 in.; barbettes, 14 in., with 6-in. hoods; casemates, 6 in.; C.T., 14 in.; deck, flat on belt, 2.5 in.

Armament: 4-12 in. (40 cal.) in pairs in barbettes f. and a.: 10-6 in. (40 cal.), four in casemates, three in shields; 16-3 in. (12 pr.); 4-2.5 pr. Torpedo tubes, 4-18 in. submerged, broadside. Compt. 650.

C



**TANGO** . . . St. Petersburg, 6.11.94. Captured at Port Arthur, 2.1.05. Refloated, 21.7.05. (ex Russian *Poltava*.)

L., p.p. 369 ft. B., 72.5 ft. D. (max.), 27.2 ft. Disp., 10,960 tons.

I.H.P. 10,600=17 kts. Coal cap., 700/1050 tons.

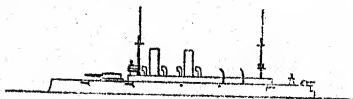
Trials: I.H.P. 11,255=16.3 kts. Boilers, Miyabara (1907).

Armour: Compound. Belt for 230 ft., 7 ft. wide, 14.5 in. to 10 in.; B.H., 9 in. to 7 in.; lower deck, side amidships, 5 in.; main turrets, 10 in., with 6-in. bases; secondary turrets, 6 in.; casemates, 5 in.; C.T., 9 in.; deck, flat on belt, 2 in.; at ends, 3 in.

Armament: 4-12 in. (35 cal.) in pairs in turrets f. and a.; 12-6 in. (45 cal.), eight in pairs in turrets, four in casemates; 16-3 pr.; 12-1 pr. Torpedo tubes, 2-18 in. submerged, broadside. Compt. 700.

(This ship took part in the Battle of the Yellow Sea, 10.8.04. She was sunk at Port Arthur and afterwards raised and repaired.)

## JAPAN: BATTLESHIPS



D

**IKI** . . . St. Petersburg, 27.10.89. Captured after Battle of the Sea of Japan, 28.5.05. (*ex* Russian *Imperator Nikolai I.*)

L., p.p. 333.4 ft. B., 67 ft. D. (max.), 25.7 ft. Disp., 9672 tons.

I.H.P. 8000=15.5 kts. Coal cap., 1200 tons.

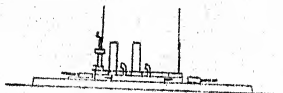
Boilers, Miyabara (1906). Trial speed (1907), 16.5 kts.

Armour: Compound. Complete belt, 8 ft. wide, 14 in. amidships, tapering to 6 in. at ends; turrets, 10 in.; barbettes, 12 in.; corners of battery, 9 in.; C.T., 8 in.; deck, flat on belt, 2.2 in.

Armament: 2-12 in. (old) in turret forward; 4-9 in. (old) at corners of battery; 7-6 in.; 16-3 pr.; 4-1 pr.

Compt. 600.

(The 9 in. may have been replaced by 6 in.)



D

**OKINOSHIMA** . . . St. Petersburg, 12.5.96. Captured after Battle of the Sea of Japan, 28.5.05. (*ex* Russian *General Admiral Graf Apraksin.*)

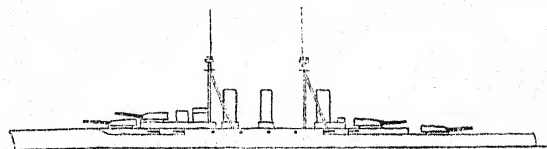
**MINOSHIMA** . . . St. Petersburg, 22.8.94. Captured after Battle of the Sea of Japan, 28.5.05. (*ex* Russian *Admiral Sinyavin.*)

L., p.p. 277.5 ft. B., 52 ft. D. (mean), 17 ft. Disp., 4126 tons.

I.H.P. 5000=16 kts. Coal cap., 260/400 tons.

Armour: Harvey in *Okinoshima*, Compound in *Minoshima*. Belt for 176 ft., 6 ft. wide, 10 in. to 8 in.; bulkheads, 8 in. to 6 in.; turrets, 8 in., with 6-in. bases; C.T., 8 in.; deck, flat on belt, 2.5 in. to 1.5 in.

Armament: *Okinoshima*, 3-10 in. (45 cal.), two in forward and one in after turret. *Minoshima*, 4-9 in. (45 cal.) in pairs in turrets f. and a.; with, in both, 4-4.7 in.; 10-3 pr.; 12-1 pr. Torpedo tubes, 4-18 in. above water. Compt. 400.



## BATTLE-CRUISERS.

A\*

HIYEI . . . . .	Yokosuka.	C. 1914.	L. 21.11.12.	B. 4.11.11
KIRISHIMA . . . . .	Nagasaki.	„ — „	1.12.13.	„ 17.3.12
HARUNA . . . . .	Kobe	„ — „	14.12.13.	„ 16.3.12
KONGO . . . . .	Barrow.	„ 17.8.13.	„ 18.5.12.	„ 17.1.11

L., o.a. 704 ft.; p.p. 660 ft. B., 92 ft. D. (mean), 27.5 ft.  
Disp., 27,500 tons.

I.H.P. 70,000=28 kts. Coal cap., 4000 tons. Oil, 1000 tons.

Engines: *Haruna*, Curtis turbines; others, Parsons turbines.  
Boilers: *Kongo*, Yarrow; others, Miyabara.

Armour: Krupp. Complete belt, 10 in. amidships, 4 in. at ends;  
turrets, 10 in.; battery, 7 in.; deck, 2.5 in.

Armament: 8-14 in. (45 cal.) in pairs in turrets on centre line,  
No. 2 fixing over No. 1, and No. 3 over No. 4; 16-6 in. (50  
cal.) in battery. Torpedo tubes, 8-21 in. submerged.



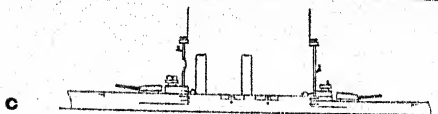
**B**

**IBUKI** : : : : Kure, 21.11.07. Laid down, 22.5.06  
**KURAMA** : : : : Yokosuka, 21.4.07. " 23.8.05

L., p.p. 450 ft. B., 75.5 ft. D. (mean), 26 ft. Disp., 14,620 tons.  
 I.H.P. 22,500=21 kts. Coal cap., 600/2000 tons. Oil, tons.  
 Engines: *Ibuki*, Curtis turbines by Fore River Co.; *Kurama*,  
 2 sets 3 expans. Boilers, Miyabara.  
 Trials: *Ibuki*, I.H.P. 27,142=22.1 kts.

Armour: Krupp. Complete belt, 7.5 ft. wide, 7 in. amidships,  
 tapering to 4 in. at ends; lower deck, side amidships, battery  
 and casemates, 5 in.; main turrets and barbettes, 7 in.;  
 secondary turrets, 6 in.; C.T., 8 in.; S.T. aft, 6 in.; deck,  
 sloping, 2 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 8-8  
 in. (45 cal.) in pairs in turrets on beam; 14-4.7 in. (50 cal.),  
 eight in battery, six in casemates; 4-3 in. (14 pr.); 3-3  
 pr.; 4 M. Torpedo tubes, 5-18 in.; four submerged, broad-  
 side, one above water, stern. Compt. 820.



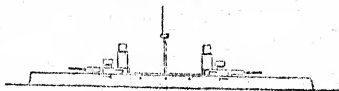
**C**

**IKOMA** : : : : Kure, 9.4.06 Laid down, 14.1.05  
**TSUKUBA** : : : : Kure, 26.12.05. " 14.1.05

L., p.p. 440 ft. B., 75 ft. D. (mean), 26 ft. Disp., 13,750 tons.  
 I.H.P. 20,500=20.5 kts. Coal cap., 600/200 tons.  
 Engines: 2 sets 3 expans. Boilers, Miyabara.  
 Trials: *Ikoma*, I.H.P. 22,670=21.4 kts.; *Tsukuba*, I.H.P.  
 20,736=20.5 kts.

Armour: As in *Ibuki* class, but no secondary turrets.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.;  
 12-6 in. (45 cal.), eight in battery, four in casemates; 12-  
 4.7 in. (50 cal.) in shields. Rest as *Ibuki* class.  
 Compt. 817.



## ARMoured CRUISERS.

F

**KASUGA** . . . Sestri Ponente, 22.10.02. Ld. dn. 10.3.02. Bought, 1903

**NISSHIN** . . . 9.2.03. 1903

(Formerly the Argentina *Rivadavia* and *Moreno*. See Note, p. 263.)

L., p.p. 357.2 ft. B., 61.4 ft. D. (mean), 24 ft. Disp., 7627 tons.

I.H.P. 13,810=20 kts. Coal cap., 640/1180 tons.

Engines: 2 sets 3 expans. by builders. Boilers, cylindrical.

Armour: Terni. Complete belt, 5.9 in. amidships, tapering to

3.1 in. at ends; lr. dk. side amidships, battery, turrets,

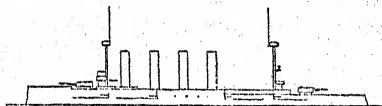
barbettes, and C.T., 5.9 in.; B.H., 4.7 in.; dk., sloping, 1.4 in.

Armament: 4-8 in. (45 cal.) in pairs in turrets f. and a.; 14-6

in. (45 cal.), ten in battery, four in shields; 10-3 in. (12

pr.); 6-3 pr.; 2 M. Torpedo tubes, 4-18 in. above water

behind 6-in. armour. Compt. 525.



F

**ASO** . . . La Seyne, 12.6.00. Captured at Port Arthur, 2.1.05.

Refloated, 24.6.05. (ex Russian *Bayan*.)

L., p.p. 442.9 ft. B., 57.1 ft. D. (mean), 21.3 ft. Disp., 7726 tons.

I.H.P. 16,770=21 kts. Coal cap., 750/1100 tons.

Trials: I.H.P. 17,160=22 kts. Boilers, Belleville.

Armour: Krupp. Partial belt, 8 in. amidships, tapering to 4 in.

at bow; B.H., aft, 8 in.; lower deck, side amidships and

forward, battery and casemates, 2.7 in.; turrets, 6 in.;

C.T., 6.2 in.; deck, sloping, 2 in.

Armament: 2-8 in. (45 cal.) in turrets f. and a.; 8-6 in. (45

cal.), four in battery, four in casemates; 20-3 in. (12 pr.),

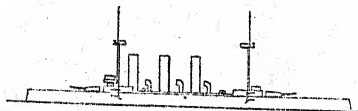
eight in battery, rest in shields; 7-3 pr. Torpedo tubes,

2-18 in. submerged, broadside. Compt. 500.

(Training Ship.)



## JAPAN: ARMoured CRUISERS



F **IWATE** . . . . . Elswick, 29.3.00. Laid down, 1899  
**IDZUMO** . . . . . „ 19.9.99. „ 1898

L., p.p. 400 ft.; o.a. 434 ft. B., 68.5 ft. D. (mean), 24.2 ft.  
 Disp., 9750 tons.

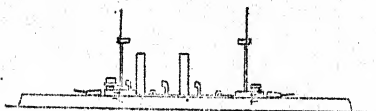
I.H.P. 14,500=20.7 kts. Coal cap., 550/1300 tons.

Engines: 2 sets 3 expans. by Humphrys, Tennant, & Co.

Trials: *Iwate*, I.H.P. 17,300=21.8 kts.; *Idzumo*, I.H.P. 15,739  
 =22 kts. Boilers, Belleville.

Armour: Krupp. Complete belt, 7 ft. wide, 7 in. for 260 ft.  
 amidships, 3.5 in. at ends; lower deck, side amidships, 5 in.;  
 turrets, barbettes, and casemates, 6 in.; C.T., 14 in.; deck,  
 sloping, 2.5 in.

Armament: 4-8 in. (40 cal.) in pairs in turrets f. and a.; 14-6  
 in. (40 cal.), ten in casemates, four in shields; 12-3 in.  
 (12 pr.); 7-2½ pr. Torpedo tubes, 4-18 in. submerged,  
 broadside. Compt. 483.



F **ASAMA** . . . . . Elswick, 23.3.98  
**TOKIWA** . . . . . „ 6.7.98

L., p.p. 408 ft.; o.a. 442 ft. B., 67 ft. D. (mean), 24.2 ft.  
 Disp., 9750 tons.

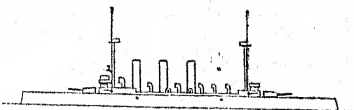
I.H.P. 18,000=21.5 kts. Boilers, cylindrical.

Engines and coal cap. as in *Iwate*.

Trials: *Asama*, I.H.P. 18,277=22.1 kts.; *Tokiwa*, I.H.P.  
 20,556=23 kts.

Armour: Harvey nickel. As in *Iwate*, but thick belt is 280 ft.  
 long.

Armament: As in *Iwate*, but also 1-18 in. torpedo tube above  
 water in bow behind 6-in. armour.



**F YAKUMO . . . . .** Stettin, 8.7.99. Laid down, 1.9.97

L., p.p. 407.7 ft. ; o.a. 434 ft. B., 64.3 ft. D. (mean), 23.6 ft.  
Disp., 9645 tons.

I.H.P. 15,780=20 kts. Coal cap., 550/1300 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Trials: I.H.P. 15,290=20.7 kts.

Armour: Krupp and Harvey nickel. Complete belt, 7 ft. wide, 7 in. amidships, 3.5 in. at ends; lower deck, side amidships, 5 in.; turrets, barbettes, and casemates, 6 in.; C.T., 14 in.; deck, sloping, 2.5 in.; armour on bow torpedo tube, 6 in.

Armament: 4-8 in. (40 cal.) in pairs in turrets f. and a.; 12-6 in. (40 cal.), eight in casemates, four in shields; 12-3 in. (12 pr.); 7-2½ pr. Torpedo tubes, 5-18 in., four submerged, broadside, one above water, bow.

Compt. 500.



**F AZUMA . . . . .** St. Nazaire, 24.6.99

L., o.a. 445.8 ft. B., 59.5 ft. D. (mean), 23.6 ft. Disp., 9307 tons.

I.H.P. 16,770=21 kts. Coal cap., 600/1300 tons.

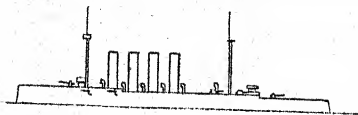
Engines: 2 sets 3 expans. by builders. Boilers, Belleville.

Trials: I.H.P. 17,755=21 kts.

Armour: As in *Yakumo*. (Thick belt, 210 ft. long.)

Armament: As in *Yakumo*, but rather differently arranged (see sketches).

Compt. 482.



## PROTECTED CRUISERS.

**SOYA** . . . Philadelphia, 31.10.99. Sunk and captured at Chemulpo, 9.2.05. Refloated, 8.8.05. (*ex Russian Variag.*)

L., p.p. 400 ft.; w.l. 419 ft. B., 52 ft. D. (mean), 19 ft.; (max.), 21 ft. Disp., 6500 tons.

I.H.P. 20,000=23 kts. Coal cap., 770/1250 tons.

Engines: 2 sets 3 expans. by builders. Boilers, Miyabara (1907).

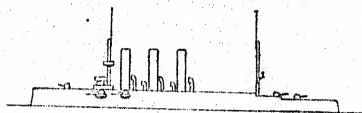
Trials: I.H.P. 20,000=24.6 kts.

Armour: Krupp. Deck, 3 in. to 1.7 in.; C.T., 5 in.

Armament: 12-6 in.; 12-3 in. (12 pr.); 6-3 pr.; 2 M. Torpedo tubes, 4-18 in., two submerged broadside, two above water, bow and stern.

Compt. 570.

(Training Ship.)



**TSUGARU** . Galernii Island, St. Petersburg, 26.8.99. Captured at Port Arthur, 2.1.05. Refloated, 11.8.05. (*ex Russian Pallada.*)

L., w.l. 406 ft.; o.a. 416 ft. B., 55 ft. D. (mean), 21 ft. Disp., 6731 tons.

I.H.P. 11,600=20 kts. Coal cap., 900/1430 tons. Oil, tons.

Engines: 3 sets 3 expans. Boilers, Belleville.

Trials: I.H.P. 13,100=19.2 kts.

Armour: Deck, 3 in. to 2 in.; C.T., 6 in.

Armament: 8-6 in. (45 cal.); 22-3 in. (12 pr.); 8-1 pr. Torpedo tubes, 4-18 in. above water.

Compt. 570. (Training Ship.)

(This ship took part in the Battle of the Yellow Sea, 10.8.04. She was afterwards sunk in the harbour of Port Arthur. She is a sister ship to the Russian *Diana* and *Aurora*.)



<b>HIRADO</b> . . . . .	Kobe,	29.6.11.	Laid down, 8.10
<b>YAHAGI</b> . . . . .	Nagasaki,	3.10.11.	„ 18.6.10
<b>CHIKUMA</b> . . . . .	Sasebo,	30.3.11.	„ 27.5.10

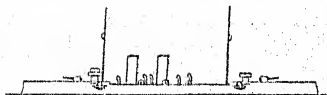
L., p.p. 430 ft. ; o.a. 465 ft. B., 46.5 ft. D. (mean), 16.5 ft.  
Disp., 4950 tons.

I.H.P. 22,500=26 kts. Coal cap., 750/1100 tons.

Engines: *Chikuma*, Parsons turbines; others, Curtis turbines,  
four screws. Boilers, Miyabara.

Armour: Deck, 3 in. to 2 in. ; C.T., 4 in.

Armament: 6-6 in. (50 cal.) ; 4-3 in. (12 pr.) ; 2 M. Torpedo  
tubes, 3-18 in. submerged.



<b>KASAGI</b> . . . . .	Philadelphia,	20.1.98
<b>CHITOSE</b> . . . . .	San Francisco,	23.1.98

L., w.l. 396 ft. ; o.a. 405 ft. B., 48 ft. D. (mean), 17.7 ft.  
Disp., 4760 tons.

I.H.P. 15,000=22.5 kts. Coal cap., 400/1000 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Trials: *Kasagi*, I.H.P. 13,492=22.7 kts. ; *Chitose*, I.H.P. 12,500  
=22.8 kts.

Armour: Deck, 4.5 in. to 1.7 in. ; C.T., 3 in.

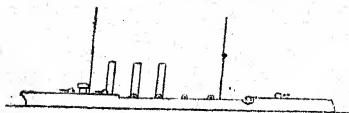
Armament: 2-8 in. (40 cal.) in shields f. and a. ; 10-4.7 in.  
(40 cal.) in shields on beam ; 12-3 in. (12 pr.) ; 6-2½ pr.

Torpedo tubes, 4-18 in. above water.

Compt. 405.

(Training Ships.)

## JAPAN: CRUISERS



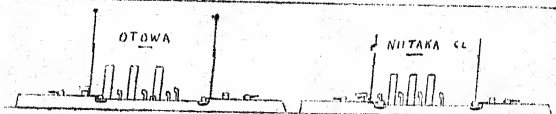
**I TONE** . . . . . Sasebo, 24.10.07. Laid down, 11.05

L., w.l. 404 ft. B., 49 ft. D. (max.), 17.5 ft. Disp., 4100 tons.  
I.H.P. 15,000=23 kts. Coal cap., 750/1000 tons.

Engines: 2 sets 3 expans. Boilers, Miyabara.

Armour: Deck, 3 in. to 2 in.; C.T., 4 in.

Armament: 2-6 in. (50 cal.); 12-4.7 in. (50 cal.); 2-3 in. (12 pr.); 2 M. Torpedo tubes, 2-18 in. submerged, broadside.  
Compt. 392.



**I OTOWA** . . . . . Yokosuka, 6.11.03. Laid down, 6.1.03

L., p.p. 341 ft. B., 41.2 ft. D. (mean), 15.6 ft. Disp., 3000 tons.

I.H.P. 10,000=21 kts. Coal cap., 600/875 tons.

Engines: 2 sets 3 expans. Boilers, Miyabara.

Armour: Deck, 3 in. to 2 in.; C.T., 4 in.

Armament: 2-6 in. (50 cal.); 6-4.7 in. (50 cal.); 4-3 in. (12 pr.); 2 M. Torpedo tubes, 2-18 in. above water.  
Compt. 312.

**I NIITAKA** . . . . . Yokosuka, 1902. Laid down, 1900

**TSUSHIMA** . . . . . Kure, 15.12.02. " 1900

L., p.p. 312 ft.; o.a. 334.5 ft. B., 44 ft. D. (max.), 16.4 ft.  
Disp., 3420 tons.

I.H.P. 9500=20 kts. Coal cap., 600 tons.

Engines: 2 sets 3 expans. Boilers, Niclausse.

Armour: Deck, 2.5 in. to 1.5 in.; C.T., 4 in.

Armament: 6-6 in. (40 cal.); 10-3 in. (12 pr.); 4-2½ pr.  
Compt. 320.



**J**  
**SUMA** . . . . . Yokosuka, 9.3.95. Laid down, 3.93  
**AKASHI** . . . . . „ 8.11.97. „ 5.94

L., p.p. 306.7 ft. B., 41 ft. D., *Suma*, 16 ft.; *Akashi*, 16.3 ft.  
 Disp., *Suma*, 2657 tons; *Akashi*, 2800 tons.  
 I.H.P. 8500=20 kts. Coal cap., 200/600 tons.  
 Engines: 2 sets 3 expans. Boilers, cylindrical.  
 Armour: Deck, 2 in. to 1 in.; C.T., 4 in.  
 Armament: 2- $\frac{5}{8}$  in. (40 cal.); 6-4.7 in. (40 cal.); 12-3 pr.;  
 4 M. Torpedo tubes, 2-18 in. above water.  
 Compt. 275.



## SCOUTS.

**K** **MOGAMI** . . . Nagasaki, 1908. Laid down, 1905  
 L., p.p. 311.7 ft. B., 31.5 ft. D. (mean), 9.8 ft. Disp., 1350 tons.  
 I.H.P. 8000=23.5 kts. (25 kts. on trial). Coal cap., 250 tons.  
 Engines: Parsons turbines. Boilers, Miyabara.  
 Armour: Deck, 2.5 in.; C.T., 2 in.  
 Armament: 2-4.7 in. (50 cal.); 4-3 in. (12 pr.). Torpedo tubes, 2-18 in. above water. Compt. 178.

**K** **YODO** . . . Kobe, 18.11.07. Laid down, 2.10.06  
 L., p.p. 300 ft. B., 32 ft. D. (mean), 9.8 ft. Disp., 1240 tons.  
 I.H.P. 6500=22 kts. Coal cap., 250 tons.  
 Engines: 2 sets 3 expans. Boilers, Miyabara.  
 Armour and Armament as *Mogami*.  
 Compt. 177.

**DESTROYERS** (See NOTES, next page).

[illegible]

## Destroyers—continued.

Name.	Date.	Builders.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
N												
Asashino .	'02	T	ft.	ft.	ft.	tons.		kts.			tons.	
Shirakumo .	'01	T	216.7	20.7	8.5	370	6000	31	T		90	60
Asagiri .	'03	Y	216.7	20.7	8.5	370	6000	31	T		90	60
Murasame .	'03	Y	220	20	9	370	6000	30	T		90	60
Akebono .	'00	P	220	20	9	370	6000	30	T		90	60
Kasumi .	'02	P								1-12 pr. ; 5-6 pr. ; 2-18 in. torpedo tubes.		
Oboro .	'00	P	220	20.5	6	306	6000	31	Y		95	55
Sazanami .	'00	P										
Kagero .	'00	T										
Murakumo .	'00	T										
Shiranuhi .	'08	T	210	19.5	5.7	275	5400	30	T		85	54
Usugumo .	'07	T										
Yugiri .	'08	T										
Satsuki (ex Byedoev)	'02	R	216	21.2	7	350	5700	26	Y	1-12 pr. ; 5-3 pr. ; 2-18 in. tubes.	80	62
Fumitsuki (ex Silnyi)	'02	A	190	18.6	8.2	240	3800	27	Y		60	51
Yamahiko (ex Ryeshtelngi)	'02	A	190	18.6	8.2	240	3800	27	Y		60	51

NOTES.—Builders: M=Maidzuru; N=Nagasaki; K=Kure; B=Kobe; O=Osaka; Y=Yokosuka; U=Uruga; S=Sahebo; T=Thornycroft, Chiswick; P=Yarrow, Poplar and Scotstoun; R=St. Petersburg; A=Port Arthur (re-erected). 790 and 1150 ton boats have Parsons turbines. The two new Yarrow boats will have Diesel engines for cruising. Boilers: M=Miyabara; T=Thornycroft; Y=Yarrow. The last three boats were taken from Russia in 1904-5.

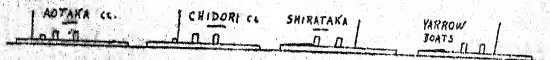




## TORPEDO BOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
O			ft.	ft.	ft.	tns.		kts.			tns.	
Aotaka . . . . .	'03	K								1-6 pr. ; 2-3 pr. ; 3-18 in. tubes.		
Hato . . . . .	'03	K										
Hibari . . . . .	'03	K										
Kamome . . . . .	'03	K										
Kari . . . . .	'03	K										
Kiji . . . . .	'03	K										
Sagi . . . . .	'03	K										
Tsubame . . . . .	'03	K	147.5	16	8	150	4200	29	N			
Uzare . . . . .	'03	K										
Hashitaka . . . . .	'03	B										
Otori . . . . .	'03	B										
Ohidori . . . . .	'00	H										
Hayabusa . . . . .	'00	H										
Kasasagi . . . . .	'00	H										
Manazuru . . . . .	'00	H										
Shirataka . . . . .	'00	E	151.2	16.7	4.2	125	2050	28	S			
(9) 39-41, 43, 62-66	'00/'01	P	152	15.1	5.3	110	2000	27	Y	{ 1-3 pr. ; 3 tubes. }	32	20
P												
(2) 74, 75 . . . . .	'02	B								{ 2-3 pr. ; 3-18 in. tubes. }	14	20
(2) 70, 71 . . . . .	'02	S	131	16	3.5	83	1200	24	..		14	20
(4) 67, 68, 72, 73 . . . . .	'02	Y									14	20
(6) 44-47, 49 . . . . .	'00	E	127.9	15.7	3.3	82	1200	24	S		14	20
(8) 31-33, 36-38 . . . . .	'99	E	127.9	13.4	3.6	82	1200	24	S	{ 1-3 pr. ; 3 tubes. }	14	20
(2) 29-30 . . . . .	'98	H	121.3	13.4	3.9	87	1500	26	N		14	20
(1) 25 . . . . .	'95	A	127.9	15.7	5.9	84	990	22	L		15	20
(1) 24 . . . . .	'94	A	118.1	13.4	3.9	79	1150	21	L		24	20
(1) 21 . . . . .	'92	H	118.1	13.4	3.9	79	1150	21	L	{ 1-3 pr. ; 2 tubes. }	10	16
(5) 54, 55, 57-59 . . . . .	'00	K	111	11.5	2.9	53	660	21	..		10	16
(3) 50, 52, 56 . . . . .	'00	Y	111	11.5	2.9	53	660	21	..		14	16
(1) 13 . . . . .	'93	A	111	11.5	2.9	53	525	20	L		14	16
(1) 5 . . . . .	'02	C	111	11.5	2.9	53	525	20	L		14	16

NOTES.—Builders: see Notes, p. 297, also H=Normand, Havre; E=Schichau, Elbing; A=Onahama; C=Creusot. Boilers: N=Normand; S=Schultz; Y=Yarrow; L=Locomotive.



## SUBMARINES.

Numbers.	Date.	Builder.	Length. Ft.	Beam. Ft.	Disp. above and below. Tons.	I.H.P. above and below.	Speed above and below.	Tubes.
2. Nos. 14, 15	bdg.	C	..	..	..	..	..	..
4. Nos. 10-13	'11/12	K	134.5	13.5	280/320	600/-	13/7	12
2. Nos. 8, 9	'09	B	134.5	13.5	280/320	600/-	13/7	12
1. No. 7	'07	K	..	..	87	..	9/7	1
1. No. 6	'07	K	..	..	62	..	9/7	1
5. Nos. 1-5	'05	Y	87	8.2	100/125	160/70	9/7	1

Notes.—Builders, C=Creusot, K=Kure, B=Barrow, Y=Yokosuka  
(Fore River Co., re-erected.)

## VEDETTE BOATS.

Q 7 boats . . . Cowes, 1901. 14 tons. I.H.P. 320=19 kts.

## MINE-LAYERS.

W AMAKUSA St. Petersburg, 11.98. Captured at Port Arthur, 2.1.05.  
Refloated, 1905. (ex Russian *Amur*.)

L., 300 ft. B., 39.5 ft. D. (max.), 20 ft. Disp., 2500 tons.

I.H.P. 4890=17.4 kts. Coal cap., 400 tons.

Armament: 5—12 pr.; 7—3 pr. Torpedo tube, 1—18 in. above water.

W NATSUSHIMA . . . 1909. Disp., 500 tons. I.H.P. 700=15 kts.

## DEPÔT SHIPS.

W TOYOHASHI . . . . . 1888. Reconstructed, 1897

L., 345 ft. B., 40 ft. D. (mean), 16.5 ft. Disp., 4120 tons.

I.H.P. 2000=12 kts. Coal cap., 860 tons.

Armament: 2—4.7 in.; 6—3 pr.

(Depôt Ship for Destroyers.)

W ANEGAWA . Clydebank, 1898. Captured at Port Arthur, 2.1.05.

Refloated 1905. (ex Russian *Angara*, ex *Moskva*.)

L., 508 ft. B., 58 ft. D. (max.), 25 ft. Disp., 11,700 tons.

I.H.P. 12,500=20 kts. Coal cap., 1583 tons. Boilers, Belleville.

Armament: 4—4.7 in.; 4—3 in. (12 pr.).

(Fleet Repair Ship.)

W KWANTO (MARU) . . . . . 6190 tons gross.  
(Fleet Repair Ship.)

W KARASAKI . . . . . Hebburn, 1896. Captured, 6.2.04. (*ex* Russian *Ekaterinoslav*.)

L., 440 ft. B., 49.4 ft. D. (max.), 24 ft. Disp., 10,500 tons.  
I.H.P. 3200=13 kts.

(Depôt Ship for Submarines.)

### OLD CRUISERS FOR SUBSIDIARY DUTIES.

I AKITSUSHIMA . . . . . Yokosuka, 1892

L., p.p. 302 ft. B., 42.6 ft. D. (mean), 18.5 ft. Disp., 3150 tons.  
I.H.P. 8400=19 kts. Coal cap., 500 tons. Boilers, cylindrical.  
Armour: Deck, 3 in.  
Armament: 4-6 in.; 6-4.7 in.; 10-3 pr. Torpedo tubes,  
4-14 in. above water. Compt. 330.

I ITSUKUSHIMA . . . . . La Seyne, 1891

HASHIDATE . . . . . Yokosuka, 1891

L., p.p. 295 ft. B., 50.8 ft. D. (max.), 21.2 ft. Disp., 4277 tons.  
I.H.P. 5400=17 kts. Coal cap., 400 tons.  
Boilers: *Itsukushima*, Belleville (1900); *Hashidate*, Miyabara  
(1903).  
Armour: Deck, 2 in. to 1 in. Barbette, 12 in., with 4-in. hood.  
Armament: 1-12.6 in. (old); 11-4.7 in.; 5-12 pr.; 11-3 pr.;  
2 M. Torpedo tubes, 4-14 in. above water. Compt. 350.

J OMIYODA . . . . . Clydebank, 1890

L., p.p. 310 ft. B., 42 ft. D. (mean), 15 ft. Disp., 2450 tons.  
I.H.P. 5500=19 kts. Coal cap., 330/420 tons.  
Engines: 2 sets 3 expans. Boilers, Belleville (Japanese).  
Armour: Chrome-steel belt for  $\frac{2}{3}$  length, 4.6 in.; deck, flat on  
belt, 1 in.  
Armament: 10-4.7 in. (40 cal.); 15-3 pr.; 3 M. Torpedo  
tubes, 3-14 in. above water. Compt. 350.

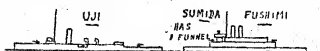
**J TAKAO** . . . . . Yokosuka, 1888. Composite built.  
 L., p.p. 230 ft. B., 33 ft. D. (mean), 13 ft. Disp., 1760 tons.  
 I.H.P. 2300=15 kts. Coal cap., 300 tons.  
 Armament: 4-6 in.; 1-4.7 in.; 6 M. Torpedo tubes, 2-14  
 in. above water. Compt. 255.

**L YAYEYAMA** . . . . . Yokosuka, 1889  
 L., p.p. 315 ft. B., 34.5 ft. D. (mean), 15 ft. Disp., 1600 tons.  
 I.H.P. 5400=20 kts. Coal cap., 350 tons. Boilers, Nielausse.  
 Armament: 3-4.7 in.; 6 M. Torpedo tubes, 2-14 in. above  
 water. Compt. 200.

## AUXILIARY CRUISERS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Owners.
T		ft.	ft.	ft.	tons		kts.	
Umegaka Maru .	'09	335	43	17	3,204	8,500	21	K.K.
Sakura Maru .	'08	335	43	17	3,204	8,500	21	
Chiyo Maru .	'08	550	63	31.5	13,426	20,000	20	T.K.K.
Tenyo Maru .	'07	550	63	31.5	13,454	20,000	20	
America Maru .	'98	423	51.1	..	6,207	10,000	17	T.K.K.
Nippon Maru .	'98	421	50.6	..	6,168	10,000	17	
Hong Kong Maru .	'98	431	50.6	..	6,169	10,000	17	T.K.K.
Alsuta Maru .	'09							
Hirano Maru .	'08							N.Y.K.
Kamo Maru .	'07	473	54	27	8,523	8,500	16.5	
Kitano Maru .	'09							N.Y.K.
Mishima Maru .	'08							
Miyazaki Maru .	'09							N.Y.K.
Kumano Maru .	'01	400	48.7	25	5,076	5,000	16.5	
Nikko Maru .	'03	428	48.8	25	5,530	6,700	17	N.Y.K.

NOTES.—All save *America Maru*, *Nippon Maru*, and *Hong Kong Maru*, built in Japan. There are many other steamers of less speed also available. Owners: K.K.=Kaiyi Kiokal (Volunteer Fleet); T.K.K.=Toyo Kisen Kaisha; N.Y.K.=Nippon Yusen Kaisha. *Umegaka Maru* and *Sakura Maru* have a war-armament of 2-6 in. and 6-12 pr.; *Chiyo Maru* and *Tenyo Maru*, 6-6 in., 10-12 pr., 4 M. Two steamers of the Japanese Red Cross Society, the *Hakui Maru* and *Kosai Maru* (built in 1900; L., 300 ft.; B., 37 ft.; D., 19 ft.; Disp., 2400 tons; Speed, 13.5 kts.), run in peace-time between Shanghai and Nagasaki, and would serve as Hospital Ships in war-time.

**GUNBOATS.****R UJI** . . . . . Kure, 14.3.03

L., 190.2 ft. B., 27.2 ft. D., 6.1 ft. Disp., 620 tons.

I.H.P. 1000=13 kts. Coal cap., 75/180 tons. Boilers, Belleville.

Armament: 4-3 in. (12 pr.); 3 M.

**V TOBA** . . . . . Sasebo, 1911

Disp., 250 tons.

I.H.P. 1400=15 kts.

**V FUSHIMI** . . . . . Poplar, 1903

L., 160 ft. B., 24.5 ft. D., 2.3 ft. Disp., 180 tons.

I.H.P. 900=14 kts. Coal cap., 38 tons. Boilers, Yarrow.

Armament: 2-6 pr.; 4 M.

**V SUMIDA** . . . . . Chiswick, 1903

L., 145 ft. B., 24 ft. D., 2 ft. Disp., 132 tons.

I.H.P. 550=15 kts. Coal cap., 25 tons. Boilers, Thornycroft.

Armament: 2-6 pr.; 4 M.

**R AKAGI** . . . . . Onohama, 1887

L., 154.2 ft. B., 26.9 ft. D. (mean), 9.3 ft. Disp., 614 tons.

I.H.P. 700=12 kts. Coal cap., 60 tons.

Armament: 4-4.7 in. (old); 6-3 pr.

Compt. 104.

**L TATSUTA** . . . . . Elswick, 1894

L., 240 ft. B., 27.5 ft. D., 13 ft. Disp., 875 tons.

I.H.P. 5500=21 kts. Coal cap., 200 tons.

Engines: 2 sets 3 expans. Boilers, Miyabara (1904).

Armament: 2-4.7 in.; 4-3 pr. Torpedo tubes, 2-14 in. above water.

(These last two ships are probably useless.)

## MISCELLANEOUS.

Name.	Date.	Length.	Beam.	Disp.	Tons, Gross.	Duty.	
<b>X Z</b>							
		ft.	ft.	tns.	tns.		
Riujo . . . . .	'64	213	41	2530	..	Gunnery school	
Hosho . . . . .	'67	144	22	320	..	} Tender to <i>Riujo</i>	
Manshu . . . . .	..	..	..	..	..		
Shikotan . . . . .	..	..	..	..	..		
Jingei . . . . .	'76	249	32	1465	..	Torpedo school	
Dai-ichi-shinten . . . . .	..	..	..	106	..	Tender to <i>Jingei</i>	
Dai-ni-shinten . . . . .	..	..	..	175	..	Tender to <i>Jingei</i>	
Nikogava . . . . .	..	..	..	..	..	Training ship	
Etayima . . . . .	..	..	..	..	..	Training ship	
Yuragava . . . . .	..	..	..	..	..	Engineers' school	
Herakles . . . . .	..	..	..	..	..	Salvage steamer	
Matsuo . . . . .	..	..	..	..	..	Surveying ship	
Hatsukase . . . . .	..	..	..	..	..	Yacht	
Benten Maru . . . . .	'96	339.4	46	..	3558	} Transports	
Hoten Maru . . . . .	'91	244	34.1	..	1565		
Kagoshima Maru . . . . .	'93	361	48	..	4295		
Kunishiri Maru . . . . .	'96	340	47	..	3829		
Moyori Maru . . . . .	'02	330.8	45.1	..	3265		
Saishiu Maru . . . . .	'97	290	42.3	..	2044		
Shiobuki Maru . . . . .	'98	329.4	45.5	..	3235		
Tappi Maru . . . . .	'90	375	46.3	..	4216		
Wakamiya Maru . . . . .	'01	365	48.2	..	4421		
Yesan Maru . . . . .	'93	325.2	41.6	..	3071		
Okinawa Maru . . . . .	'96	307.2	40.1	..	2221	Cable ship	
Uraga Maru II . . . . .	'03	105.3	18.6	..	170	War department	
Chin Pen . . . . .	'81	125	29	500	..	} ex Gunboats, cap. '95	
Chin Chai . . . . .	'81	125	29	500	..		
Chin Nan . . . . .	'79	125	29	490	..		
Chin To . . . . .	'79						
Chin Sei . . . . .	'79						
Chin Hoku . . . . .	'79						

## JOHORE

The Sultan possesses a 300-ton steam yacht, built on the Clyde, and armed with 4 Q. guns ; and 2 smaller armed yachts. One, probably the first, is called *Seabelle*.

There is also a 100-ton combined yacht and gunboat, built about '98 at Liverpool.

## LIBERIA

X

LARK . . . . . London, 1876. (*ex* Yacht *Eros*.)

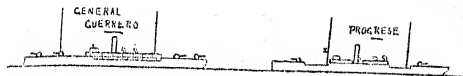
L., 228 ft. B., 26 ft. D., 15 ft. Disp., 770 tons.

(Revenue Service.)

X

1 Gunboat

## MEXICO



## GUNBOATS AND TRANSPORTS.

R

**GENERAL GUERRERO** . . . . . Barrow, 23.1.08

L., 245 ft. B., 35 ft. D., 17 ft. Disp., 1850 tons.

I.H.P. 1200=14 kts.

Armament: 6-4 in.; 2-3 pr.

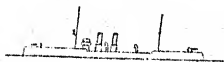
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**PROGRESO** . . . . . Sestri Ponente (Odero), 1908

L., 230 ft. B., 34 ft. D., 10 ft. Disp., 1565 tons.

I.H.P. 1380=14 kts. Boilers, cylindrical.

Armament: 4-4 in.



R

**BRAVO** . . . . . Sestri Ponente, 1903**MORALES** . . . . . „ 1903

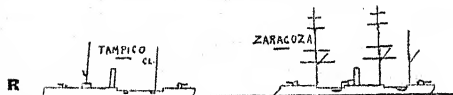
L., 249.3 ft. B., 32.8 ft. D., 10 ft. Disp., 1260 tons.

I.H.P. 2565=17 kts. Boilers, Blechynden.

Armament: 2-4 in.; 6-6 pr. Torpedo tube, 1 above water in bow.

Compt. 116,





**TAMPICO** . . . . . Elizabethport, New Jersey, 1902  
**VERA CRUZ** . . . . . " " 15.9.02  
 L., 200 ft. B., 33 ft. D., 10 ft. Disp., 980 tons.  
 I.H.P. 2400=16 kts. Boilers, Mosher.  
 Armament: 2-4 in.; 6-6 pr. Torpedo tube, 1 above water  
                     in bow. Compt. 100.

### TRAINING SHIP.

**ZARAGOZA** . . . . . Graville, 9.4.91. (ex Porfirio Diaz.)  
 L., 213.2 ft. B., 32.8 ft. D., 14.2 ft. Disp., 1181 tons.  
 I.H.P. 1280=15.3 kts. Coal cap., 200 tons.  
 Armament: 2-4.7 in. (40 cal.); 2-6 pr.; 2-1 pr.  
                     Compt. 270.

### TORPEDO BOATS.

4 boats . . . . . Sestri Ponente, building  
 4 boats . . . . . projected  
 Disp., 222 tons. Speed, 25 kts.

### MISCELLANEOUS.

**DEMOCRATA** . . . . . 1875. Disp., 450 tons. Speed, 11 kts.  
 Armament: 2-6 in. muzzle-loaders; 2-4 in. (old).

**LIBERTAD** . . . . . Birkenhead, 26.11.74. Disp., 425 tons  
**INDEPENDENCIA** . . . . . " 24.10.74. Speed, 10 kts.  
 Armament: 1-6 in. muzzle-loader; 2-4 in. (old).

**TRITON** . . . . . 1902. Police boat. I.H.P. 300.  
 L., 100 ft. B., 17 ft. D., 10 ft.

Steamers. **OAXACA, CAMPECHE, MAZATLAN, DONATO GUERRA**  
 Sailing Ship. **YUCATAN**

## MONTENEGRO

## ROYAL YACHT.

X

ZMDV . . . . 1890

Disp., 140 tons. I.H.P. 400=12 kts. Armament: 2-3 pr.

## MOROCCO

## GUNBOATS.

R

SIDI-EL-TURK . . . . Sampierdarena, 7.98

L., 154 ft. B., 23 ft.

Disp., 450 tons.

I.H.P. 1185=14.5 kts.

Armament: 2 guns.

R

NOOR-EL-BAHR . . . . 1898

Disp., 450 tons. Speed, 14 kts.

R

EL HASSANEH . . . . Middlesborough, 1882

L., 240.7 ft. B., 34 ft. Disp., 1164 tons.

I.H.P. 1000=10 kts. Coal cap., 100 tons.

Armament: 1-6 in.; 4 M.

Compt. 130.

X

2 ships . . . . Germany, 1906

(For Coastguard Duties.)

## NORWAY

## BATTLESHIPS.

## D

BJÖRGVIN . . . Elswick, 1914

NIDAROS . . . " "

L., 295.3 ft. B., 50.8 ft. D. (mean), 16.5 ft. Disp., 4430 tons.

I.H.P. 4500=17 kts.

Engines: Turbines, by Hawthorn, Leslie, &amp; Co.

Armour: Krupp. Belt, 7.8 in.

Armament: 2-11 in. ; 4-6 in. ; 6-4 in. Torpedo tubes, 2 submerged.

Compt. 250.

(May be taken over by Great Britain.)

**D**

**NORGE** . . . . . Elswick, 31.3.00. Laid down, 1899  
**EIDSVOLD** . . . . . " 14.6.00. " 1899

L., p.p. 290 ft.; o.a. 310 ft. B., 50.5 ft. D. (mean), 16.5 ft.  
 Disp., 3347 tons.

I.H.P. 4800=17 kts. Coal cap., 440/590 tons.

Engines: by Hawthorn, Leslie, & Co. Boilers, Yarrow.

Armour: Krupp. Partial belt, 6 in. to 4 in. Turrets, 8 in.;  
 barbettes, 6 in.; casemates, 5 in.; C.T., 6 in.; deck,  
 sloping, 2 in.

Armament: 2-8.2 in. (45 cal.) f. and a.; 6-6 in. (45 cal.), four  
 in casemates, two in shields; 8-3 in. (12 pr.); 6-3 pr.  
 Torpedo tubes, 2 submerged.

Compt. 261.

**D**

**HARALD HAARFAGRE** . . . . . Elswick, 4.1.97. Laid down, 1896  
**TORDENSKJOLD** . . . . . " 18.3.97. " 1896

L., p.p. 279 ft.; o.a. 303 ft. B., 48.5 ft. D. (mean), 16.6 ft.  
 Disp., 3556 tons.

I.H.P. 4500=16 kts. (17.2 on trial). Coal cap., 200/550 tons.

Engines: by Hawthorn, Leslie, & Co. Boilers, cylindrical.

Armour: Harvey. Partial belt, 174 ft. long, 6.5 ft. wide, 7 in.  
 to 4 in.; turrets, 8 in.; barbettes, 5 in.; bulkheads, 8 in.;  
 C.T., 6 in.; deck, flat on belt, 2 in.

Armament: 2-8.2 in. (45 cal.) f. and a.; 6-4.7 in. (45 cal.) in  
 shields; 6-3 in. (12 pr.); 6-1 pr. Torpedo tubes, 2  
 submerged.

Compt. 248.

**MONITORS.****U**

**THOR** . . . . . Horten, 1872. Reconstructed, 1897. Iron-built  
 L., 204.7 ft. B., 47.9 ft. D. (mean), 12.5 ft. Disp., 1975 tons.  
 I.H.P. 600=8 kts. Coal cap., 196 tons.  
 Armour: Iron. Belt, 7 in. to 5 in.; turret, 14 in.; deck, 1 in.  
 Armament: 2-4.7 in. (40 cal.) in a shield on top of the turret;  
 2-9 pr.; 3 M. Compt. 72.

**U**

**THRUVDANG** . . . Horten, 1869. Reconstructed, 1895. Iron-built  
 L., 204.7 ft. B., 45.5 ft. D. (mean), 10.8 ft. Disp., 1493 tons.  
 I.H.P. 500=8.5 kts. Coal cap., 128 tons.  
 Armour: Iron. Belt, 5 in. to 4 in.; turret, 12 in.; deck, 1 in.  
 Armament: As in *Thor*. Compt. 69.

**CRUISERS.****J**

**FRITHJOF** . . . . . Horten, 1896.

L., p.p. 216 ft.; o.a. 225 ft. B., 33 ft. D., 13.3 ft. Disp.,  
 1370 tons.  
 I.H.P. 2960=15 kts. Coal cap., 160 tons. Boilers, cylindrical.  
 Armour: deck, 1.4 in.; C.T., 3.3 in. Cellulose belt.  
 Armament: 2-4.7 in. (45 cal.); 4-3 in. (12 pr.); 4-1 pr.  
 Torpedo tubes, 1 submerged in bow, 2 above water.  
 Compt. 154.

**J**

**VIKING** . . . . . Horten, 1891. Laid down, 1889

L., p.p. 196.9 ft.; o.a. 207 ft. B., 30.5 ft. D. (mean), 12 ft.  
 Disp., 1113 tons.  
 I.H.P. 1970=15 kts. Coal cap., 140 tons. Boilers, cylindrical.  
 Armour: Deck, 1.2 in.; C.T., 3 in.; cellulose belt.  
 Armament: 1-6 in. (40 cal.); 1-4.7 in. (45 cal.); 4-3 in. (12  
 pr.); 4-1 pr.; 2 M. Torpedo tubes, 1 submerged in bow, 2  
 above water. Compt. 140.

## DESTROYERS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	L.H.P.	Speed.	Armament.	Compt.	Coal Cap.
		ft.	ft.	ft.	tons.		kts.			tons
<b>M</b>										
Garm . . . . .	'13	230	23.8	9	542	7400	27	{ 6-12 r. ; 3 tubes. }	71	95
Troll . . . . .	'09									
Draug . . . . .	'08									
<b>N</b>										
Valkyrien . . . . .	'96	198.5	24.6	8.6	374	3260	23	{ 2-10 pr. ; 2-1 pr. ; 2 tubes. }	50	90

## TORPEDO BOATS.

## O

Kjeld	'12	134.5	14.8	..	90	1680	25	{ 2-3 pr. ; 2 tubes. }	{	19	18
Skarv	'07										
Teist	'08										
Laks	'00	131.3	16	6.9	102	1100	21	{ 2-1 pr. ; 2 tubes. }	{	19	17
Sild	'00										
Sael	'00										
Skrei	'00	131.3	16	6.9	102	1000	20				
Storm	'09										
Brand	'09										
Trods	'09	131.3	16	6.9	102	975	19				
Delfin	'06										
Hai	'06										
Hval	'06										

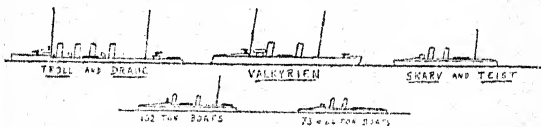
## P

Lom	'06	118.1	14.9	6.3	73	1100	23	2-1 pr.; 2 tubes.	14	16
Jo	'06								14	16
Grib	'03								14	16
Ravn	'03	118.1	14.9	6.3	73	1000	22		14	14
Orn	'03	118.1	14.9	6.3	73	1000	22		14	14
Hauk	'03	114.9	14.9	5.3	64	750	20		14	14
Falk	'03	114.9	14.9	5.3	64	750	20		14	14
Kjaek	'00	114.9	14.9	5.3	64	650	19		14	14
Hvas	'00	114.9	14.9	5.3	64	650	19		14	14
Dristig	'98	114.9	14.5	5.9	67	650	19		14	14
Kvik	'98								14	14
Djerv	'97								14	14
Lyn	'96	114.9	12.5	5.9	65	650	19	14	12	
Blink	'96							14	12	
Glimt	'96							14	12	
Raket	'94	114.9	12.5	5.9	65	650	19	1-1 pr.; 2 tubes.	12	11
Varg	'94	114.9	12.5	5.9	65	650	19		12	11

## Torpedo Boats—continued.

P	Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Armament.	Compt.	Coal Cap.
			ft.	ft.	ft.	tns.		kts.			tns.
Orm	.	'88	108.3	12.5	5.3	57	543	19	1-1 pr.; 2 tubes.	12	7
Oter	.	'88	108.3	12.5	5.3	55	543	19		12	7
Snar	.	'87	101.8	11.5	5.6	50	600	19		11	6
Pil	.	'86								11	6
Rask	.	'86	98.5	11.2	5.6	45	420	18	1-1 pr.; 1 tube.	11	6
Springer	.	'85								11	4
Od	.	'82	95.2	10.5	5.6	42	420	18		11	4
Myg	.	'99	82	10.5	4.9	27	286	17		8	3

NOTES.—Destroyers.—*Valkyrien* built by Schichau at Elbing, others in Norway. All have twin screws, reciprocating engines, and Thornycroft boilers. Torpedo boats.—*Delfin*, *Hai*, and *Hval* built by Schichau at Elbing, others in Norway. All have single screws.



## SUBMARINES.

S	A1 . . . . .	Kiel (Germania).	1900
	A2 . . . . .	" "	1913
	A3 . . . . .	" "	"
	A4 . . . . .	" "	"

L., 129 ft. B., 12.2 ft. D., 9.5 ft. Disp., 200/255 tons.

I.H.P. 440/250=12/9 kts.

Engines: Petrol motors for surface, electric when submerged.

Armament: 3—18 in. torpedo tubes, two in bow, one in stern.  
(4 torpedoes.) Compt. 12. (Safety keel, 4 tons.)

(.16 taken over by Germany, 1914.)

## GUNBOATS.

**R HEIMDAL** . . . Christiania, 1892. 1 funnel, schooner-rigged  
L., 181 ft. B., 27 ft. D. (mean), 13.2 ft. Disp., 625 tons.  
I.H.P. 690=12.5 kts. Coal cap., 92 tons.  
Armament: 4-9 pr. Compt. 62.

**R AEGER** . . . 1892. 1 funnel, 1 mast forward, big gun forward  
L., 108.5 ft. B., 29.5 ft. D. (mean), 8 ft. Disp., 384 tons.  
I.H.P. 444=10 kts. Coal cap., 24 tons.  
Armament: 1-8.2 in.; 2-6 pr. Compt. 43.

**R TYR** . . . Horten, 1888. 1 funnel, 1 mast aft, big gun forward  
**GOR** . . . Horten, 1885.  
L., 103.3 ft. B., 28 ft. D. (mean), 7.5 ft. Disp., 275 tons.  
I.H.P. 740=10.5 kts. Coal cap., 22 tons.  
Armament: 1-10.2 in. (old); 1-6 pr.; 2 M. 1 torpedo tube.  
Compt. 41.

**R SLEIPNER** . . . Horten, '77. Reconstd. '99. 3 funnels, 2 masts. Iron  
L., 174.7 ft. B., 25.9 ft. D. (mean), 9.5 ft. Disp., 573 tons.  
I.H.P. 740=12 kts. Coal cap., 81 tons.  
Armament: 1-10.2 in. (old) for'd.; 1-5.9 in. (old) aft; 1 M.  
1 torpedo tube, submerged. Compt. 90.  
(Training Ship.)

**R SARPEN** . . . 1860. 190 tons, 10 kts., 4-9 pr.  
**R BRACE, NOR, VIDAR, ULLER, VALE** . . . 1874-1882. 260-283 tons  
8 kts., 1-10.6 in. M.L.

## MISCELLANEOUS.

**X NORDSTJERNEN** . . . 1862. Ship rigged. Wooden. 1610  
tons. 9 kts. 10-4.7 in. Compt. 216.

**X ELLIDA** . . . 1880. Barque-rigged. Wooden. 1006 tons. 12  
kts. 5-5.9 in. (old); 2-12 pr. 1 torpedo tube.  
Compt. 128. (Cadets' Training Ship.)

**X DESIDERIA, NORNEN, KONG SVERRE** . . . Training ships  
**X ALFEN, STATSRAAD ERICHSEN, ROSANAES, SVALEN,**  
**ALKEN** . . . Sailing ships

**X FRAM** . . . Stavanger, 1900. 228 tons. Transport

**X FALKEN** . . . Transport

**Z NIDAROS** . . . Torpedo Depot Ship

**Z ST. OLAF** . . . Coal Hulk

**X Oil Tank Ship**, 1911. Carries 300 tons. Motor for her own  
propulsion

**X Nos. 1-5.** Mine-layers



## PANAMA

- V **DARIAN** . . . 1895. *ex* Colombian *General Nerino*  
**GATAN** . . . 1897. *ex* Colombian *Esperanza*

Stern-wheel steamers, 1 funnel, 1 mast.

L., 140 ft. B., 34.7 ft. D., 3.3 ft. Disp. (abt.) 400 tons.

I.H.P. 430=15 kts. Engines, inclined 3 expans.

Armament: 3-1 pr. Nickel steel over engines, 25 in.

- V **CHERQUITO** . . . . . 1896. *ex* Colombian  
 643 tons. 12 kts. Armament: 2-1 pr.

- V **PADILLA** . . . San Francisco, 1890. *ex* Colombian *Cuscattlan*  
 75 tons. 10 kts. Armament: 1-1 pr.

## PARAGUAY

- V **VILLA RICA** . . . 440 tons. 10 kts. Armament: 1-3 pr.  
 Two smaller Steamers, *Sagonia* and another.

## PERSIA

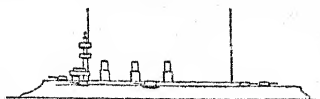
- R  
**PERSEPOLIS** . . . Bremen, 1885. Purchased. Iron. Schooner-rigged  
 L., 207 ft. B., 32.7 ft. D. (mean), 19.6 ft. Disp., 1200 tons.  
 I.H.P. 450=10 kts.  
 Armament: 4-27 in. (old); 2 M.

- X **MUZAFFER-ED DIN** . . . . . Nantes, 1899  
 L., 130 ft. B., 26 ft. D., 13 ft. Disp., 379 tons.

- X **SELIKA** . . . Purchased, 1902. 1 funnel, schooner-rigged  
 Disp., 400 tons. Royal Yacht.

- X **SUSA** . . . . . 1885. Twin screw launch  
 L., 78.7 ft. B., 16.2 ft. D. (mean), 3 ft. Disp., 36 tons.  
 Speed, 7 kts. Armament: 1-27 in. (old).

## PERU



## ARMoured CRUISER.

**G**  
**COMMANDANTE ACUIRRE** . . . . Brest, 27.10.90. Reconstd. 1905.  
 Bought, 1911 (ex French *Dupuy de Lôme*)

L., p.p. 374 ft. B., 51.5 ft. D. (mean), 23.5 ft. Disp., 6300 tons.

[H.P. 13,810=20 kts. Coal cap., 885/1053 tons.

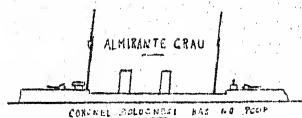
Engines: 3 sets 3 expans., horiz. for side screws, vert. for centre.

Boilers, Normand-Sigaudy (1905). Speed after reconstruction, 18.6 kts.

Armour: Steel. Complete belt to upper deck, 4.3 in.; turrets, 3.9 in.; C.T., 4.7 in.; deck, sloping, 2.5 in. to 1.5 in.

Armament: 2-7.6 in. (45 cal.) in turrets on each beam; 6-6.4 in. (45 cal.) singly in turrets, three forward, three aft; 4-9 pr.; 12-3 pr. Torpedo tubes, 4 above water.

Compt. 521.



## SCOUTS.

**K** **CORONEL BOLOGNESI** . . . . . Barrow, 24.9.06  
**ALMIRANTE GRAU** . . . . . " 27.3.06

L., w.l. 370 ft. B., 40.5 ft. D. (mean), 14.3 ft. Disp., *Coronel Bolognesi*, 3180 tons; *Almirante Grau*, 3200 tons.

I.H.P. 14,000=24 kts. Coal cap., 500 tons. Boilers, Yarrow.

Armour: deck, 1.5 in. amidships; C.T., 3 in.

Armament: 2-6 in. (50 cal.); 8-3 in. (14 pr.); 8-1.2 pr.

Torpedo tubes, 2-18 in. submerged.

Compt. 300.

**DESTROYER.**

**N** **TENIENTE RODRIGUEZ** . . . . . Creusot, 1909  
 L., 262.5 ft. Disp., 492 tons. Speed, 28.5 kts. Zoelly turbines.

**SUBMARINE.**

**S** **1 boat** . . . . . Chalons-sur-Saône, bdg.  
**FERRÉ** . . . . . " 1912  
**PALACIOS** . . . . . " 1912  
 Disp., 306/458 tons.

Speed, 15/8 kts.

Armament: 1 torpedo tube in bow, 4 outside launching apparatus.  
 (Boat building probably taken over by France.)

**MISCELLANEOUS.**

**X** **LIMA** . . . . . ex *Socrates*. Kiel, 1881. 2 funnels, 2 masts  
 L., 250 ft. B., 35 ft. D. (mean), 15 ft. Disp., 1700 tons.  
 I.H.P. 1800=16.2 kts. Coal cap., 300 tons.  
 Armament: 2-6 in. (old); 3-3 pr.; 4 M.

**X** **SANTA ROSA** . . . . . ex *Talca*, Glasgow, 1883. 420 tons, 2 guns  
**X** **IQUITOS** . . . . . Converted merchantman, some small guns  
**X** **CHALAI** . . . . . Wooden Gunboat. Armament: 2-12 pr.  
**X** **CONSTITUCION**. 2 funnels, barquentine-rigged. School Ship.  
 Armament: 6-3 pr.; 2 M.

**X** **ECLAIREUR** . . . . . Toulon, 1877. Re-engined, '95. Wooden  
 Disp., 1658 tons. 14 kts. Armament: 6-5.5 in. (old); 6-1 pr.  
 Compt. 196.

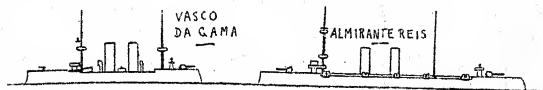
**X** **APURIMAC** . . . . . Wooden screw frigate. Training Ship

**X** **HAVANA** . . . . . Philadelphia, 1863. Transport

**X** **COLON, LERZUNDI, DUQUE DE GUIZA, TUMPEZ, IQUIQUE, CALLAO**  
 Special Service. Paddle Wheel Steamers.

**Z** **PERU** . . . . . Hulk. Training Ship.

# PORTUGAL



## BATTLESHIP.

D

**VASCO DA GAMA** . . Blackwall, 1875. Lengthened and reconstructed at Leghorn, 1902

L., o.a. 233.7 ft. B., 40 ft. D. (max.), 19 ft. Disp., 3165 tons. I.H.P. 6000=15.5 kts. Coal cap., 300 tons. Boilers, Yarrow. Armour: Iron. Belt, 9 in. amidships, 7 in. at ends; battery, 9 in. to 10 in.; deck, flat, 2.9 in.; turrets (Terni steel), 7.8 in. Armament: 2-8 in. (40 cal.) in two turrets on each beam standing on the former battery; 1-6 in. (45 cal.) in a shield aft; 1-3 in. (12 pr.) forward; 6-3 pr. Torpedo tubes, 2 submerged.

Compt. 242.

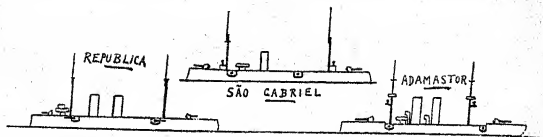
## CRUISERS.

(2 2500-ton cruisers projected.)

**ALMIRANTE REIS** . . . . . ex *Dom Carlos I.* Elswick, 5.5.98

L., 360 ft. B., 47.2 ft. D. (max.), 17.5 ft. Disp., 4100 tons. I.H.P. 12,700=22 kts. Coal cap., 700/1000 tons. Engines: by Hawthorn, Leslie, & Co. Boilers, Yarrow. Armour: Deck, 4 in. on slopes, 1.7 in. on flat; C.T., 4 in. Armament: 4-6 in. (45 cal.) in shields f. and a.; 8-4.7 in. (45 cal.); 16-3 pr.; 2-1 pr.; 4 M. Torpedo tubes, 2 submerged, 3 above water (broadside and stern).

Compt. 473.



**J SÃO GABRIEL** . . . . . Havre, 15.5.98. Laid down, 1897

L., 246 ft. B., 35.3 ft. D. (mean), 14.3 ft. Disp., 1775 tons.  
 I.H.P. 4000=17.5 kts. Coal cap., 500 tons. Boilers, Normand.  
 Armour: Deck, 1.3 in.; C.T., 2.7 in.  
 Armament: 2-5.9 in. (45 cal.) in shields f. and a.; 4-4.7 in. (45 cal.) on broadside in closed sponsons; 8-3 pr.; 2-1 pr.; 2 M. 1 torpedo tube above water in bow.  
 Compt. 237.

**J REPUBLICA** (ex *Rainha Dona Amelia*). Lisbon, 1899

L., 246 ft. B., 33.7 ft. D. (max.), 14.8 ft. Disp., 1635 tons.  
 I.H.P. 5330=18 kts. Coal cap., 400 tons. Boilers, Normand.  
 Armour: Deck, 1.3 in.; C.T., 2.3 in.  
 Armament: 4-5.9 in. (40 cal.) in sponsons; 2-3.9 in. (45 cal.) f. and a.; 4-3 pr.; 2 M. Torpedo tubes, two above water.  
 Compt. 250.

**J ADAMASTOR** . . . . . Leghorn, 1896

L., 242.7 ft. B., 35 ft. D. (mean), 14.2 ft. Disp., 1712 tons.  
 I.H.P. 3958=18 kts. Coal cap., 220/420 tons. Boilers, cylindrical.  
 Armour: Deck, 1.2 in.; C.T., 2.7 in.  
 Armament: 2-5.9 in. (old) f. and a.; 4-4.1 in. (40 cal.) in sponsons; 4-6 pr.; 2-1 pr.; 2 M. Torpedo tubes, three above water, bow and broadside.  
 Compt. 237.

**R**

**AFFONSO DE ALBUQUERQUE** . . . Blackwall, 1884. Iron, sheathed and zincd. 1 funnel, barque-rigged, single screw

L., 205 ft. B., 33 ft. D. (mean), 13 ft. Disp., 1111 tons.  
 I.H.P. (trial), 1362=13.3 kts. Coal cap., 150 tons.  
 Armament: 2-6 in. (old); 5-5 in. (old); 2-6 pr.; 2 M.  
 Compt. 178.



## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
<b>M</b>			ft.	ft.	ft.	tns.		kts			tns.	
6 boats . .	pro.	..	..	..	..	800	..	..	..		..	..
1 boat . .	bdg.	L	240	23.5	..	700	8000	27	Y	{ 1-3'9 in.; 2-3 in.; 2 tubes.	..	..
Douro . .	'13	L	230	24	8.2	525	6300	25	N	{ 1-3'9 in.; 1-9 pr.; 4-3 pr.; 2 t's.	..	85
Tejo . .	'02	L	230	24	8.2	525	6300	25	N			

## TORPEDO BOATS.

P Nos. 2, 3, 4	'86	Y	120	12.5	5.5	60	700	20	L	{ 2-3 pr.; 2 tubes.	{ 18 10	{ 16 10
P No. 1	'81	Y	85	11	5	54	450	19	L			

NOTES.—*Douro* has Parsons turbines by Yarrow. *Tejo* was wrecked in 1910, but has since been salvaged and reconstructed. Builders: L=Lisbon (Yarrow); S=La Seyne; Y=Yarrow. Boilers: Y=Yarrow; N=Normand; L=Locomotive.

## SUBMARINES.

(3 boats of 350 tons projected.)

**S** Espadarte . . . . . 1912.

L., 148.3 ft. Disp., 241/295 tons. Speed, 14/8 kts.; 2 tubes.  
Compt. 20.

## MINE-LAYER.

**W** VULCANO . . . . . Southampton, 2.10

L., 110 ft. B., 19.5 ft. D. (mean), 6.7 ft. Disp., 200 tons.

I.H.P. 400=12 kts. Boiler, Thornycroft.

Armament: 1-18 in. torpedo tube; 2 dropping gears.

## GUNBOATS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	L.H.P.	Speed.	Armament.	Coal.	Compt.
<b>R and V</b>										
		ft.	ft.	ft.	tns.		kts.		tns.	
Save . . .	'08	141	23.6	5.9	300	405	12	2-3 pr.; 1 M.	..	55
Lurio . . .	'07	141	23.6	5.9	300	495	12	4-3.9 in.; 6-3 pr.;	..	55
Patria . . .	'03	196.8	28.7	8.5	630	1775	15	2-1 pr.	..	160
Dom Luiz . .	'95	147.6	27.2	14.6	790	405	10	4-4.1 in.; 2-6 pr.;	105	120
								2 M.		
Diu . . .	'89	147.7	27.8	12	729	690	11	2-4.1 in.; 2-9 pr.;	80	124
								2-3 pr.		
Zaire . . .	'84	140	26	11	553	500	10	1-5.9 in.; 2-3.9	90	109
Zambeze . .	'86	143	26	10.8	640	460	10	1 in.; 1-3 pr.	90	113
Caçongo . .	'86	120	19.5	7.3	276	380	11	2-2.9 in.	50	45
Massabi . .	'86	120	19.5	7.3	276	380	11	1-2.9 in.; 1-3 pr.;	50	45
								1 M.		
Vouga . . .	'82	161	27.6	12	710	590	10	2-3.9 in.; 2-6 pr.	100	122
Sado . . .	'75	150	28	10.6	645	500	11	1-3 pr.; 1 M.	90	106
Tamega . .	'75	150	28	10.6	645	580	11	2-4.1 in.; 2-9 pr.	90	109
Rio Lima . .	'75	152	27.5	10.6	640	500	11	1-6 in.; 2-3.9 in.;	90	111
								2 M.		
Baptista de										
Andrada . .	'97	95	17.2	7.2	150	..	10.5	2-3 pr.; 2 M.	..	..
Neves Ferreira	'04	95	10.5	7.5	344	220	11	1-3 pr.; 2 M.	..	87
Vilhena . .	'81	95	16	6	159	310	11.0	1-2.9 in.; 1 M.	30	23
Macau . . .	'08	120	20	2.1	107	250	10.8	2-9 pr.; 4 M.	..	..
Chaimite . .	'98	133.8	26.2	6.5	340	475	11	2-6 pr.; 2 M.	..	26
Limpopo . .	'90	124	21	6	321	523	11.5	1-9 pr.; 2 M.	..	42
Cachau . .	'02	83	20	1.6	45	100	10		..	7
Sena . . .	'04	119	21.3	3.2	70	100	10	2-1 pr.; 1 M.	..	7
Tete . . .	'03	119	21.3	3.2	70	100	10		..	7
Diego Cão . .	'96	70	13	2.2	44	90	10	1-3 pr.	..	8
Infante D.										
Manoel . .	'04	82	13	2	38	64	..	1 M.	..	..

NOTES.—The last four are paddle steamers. *Dom Luiz*, *Diu*, *Zambeze*, *Vouga*, *Sado*, and *Tamega* are wooden. Other old paddle gunboats (probably useless) are *Sabre*, *Carabina*, *Flecha*, *Granada*, *Obuz*, *Cherim*, *Cuama*, *Lacerda*, *Serpa Pinto*, *Capello*, and *Ivens*, all built by Yarrow, 1888-94.

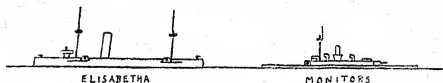
## MISCELLANEOUS.

Name.	Date.	Disp.	Service.
		tons.	
X 5 Outubro (ex <i>Amelia</i> )	1900	1240	Yacht
X Africa	1875	2990	Transport
X Salvador Correia	1895	300	Transport
X Pero d'Alemquer	{ 1896 } bought	2195	Sailing transport
X Dom Fernando e Gloria	1843	1850	Gunnery training ship <sup>1</sup>
X Duque de Palmella	1869	952	Training ship (engines removed)
X Açor	1874	335	Customs
X Lagos	1878	125	Customs
X Tavira	1878	230	Customs
X Lidador	1884	252	Tug
X Berrio	1898	404	Tug
X Estephania	1859	2370	Sailing training ship for boys
X Rio Minho	1881	18	Sailing gun-launch for fishery protection
X Capitania	1901	...	Tug for Lourenço Marques
Z India	1871	2578	Depôt ship at Delagoa Bay
Z Bartholomeu Dias	1858	2377	Depôt ship at Loanda
Z Cabinda (ex sailing transport)	1865	1000	Hospital ship
Z Infanta Dona Joanna (ex corvette)	...	...	Powder hulk
Z Norte (ex tug)	...	...	Powder hulk
Z Mindello (ex corvette)	1875	1120	Coal hulk
Z Pilar (ex brig)	...	...	Hulk
Z Pedro Nunes (ex training ship)	...	...	Hulk
Z Rio Ave (ex gun vessel)	1880	378	Lightship

<sup>1</sup> 1-6 in. Q.; 1-4-7 in. Q.; 1-12 pr. Q.; 2-6 pr. Q.; 2-3 pr. Q.; 1 mach.



## ROUMANIA



## CRUISER.

**J ELIZABETHA** . . . Elswick, 1887

L., 222 ft. B., 33.5 ft. D. (mean), 12 ft. Disp., 1325 tons.  
 I.H.P. 4700=18.5 kts. Coal cap., 80/320 tons. Oil, tons.  
 Armour: Deck, 3.5 in. amidships, 1.7 in. at ends.  
 Armament: 4-6 in. (old); 4-6 pr.; 2-1 pr.; 2 M. Torpedo  
 tubes, 4-14 in. above water.  
 Compt. 250.

## MONITORS.

**U**  
**JOAN BRATIANO, LASKAR CATARGI, ALEX LAHOVARY, and MICHAL**  
**GOGALNICEANU** . . . Trieste, 1907

L., 203.4 ft. B., 32.9 ft. D., 5.9 ft. Disp., 669 tons.  
 I.H.P. 1775=14 kts. Coal cap., 60 tons.  
 Armour: Belt, 2.5 in.; C.T., 2.3 in.; deck, 1.2 in.; turrets,  
 2 in. to 3 in.  
 Armament: 3-4.7 in. (35 cal.) singly in turrets, two forward,  
 one aft; 2-4.7 in. howitzers; 4=3 pr.; 2 M.  
 Compt. 80.

## GUNBOATS.

**V BISTRITZA, OTUL, SERETUL** . . . Blackwall, 1888

L., 100 ft. B., 13.5 ft. D. (mean), 6 ft. Disp., 95 tons.  
 I.H.P. 300=13 kts. Coal cap., 12 tons.  
 Armament: 2-6 pr. Compt. 20.

**V GRIVITZA** . . . 1880

L., 98 ft. B., 17 ft. D. (mean), 5.9 ft. Disp., 110 tons.  
 I.H.P. 180=9 kts. Coal cap., 18 tons.  
 Armament: 2-6 pr.; 4 M. Compt. 30.

## V FULGURUL . . . . . 1878

L., 82 ft. B., 15.7 ft. D. (mean), 4.2 ft. Disp., 85 tons.

I.H.P. 100=7 kts. Coal cap., 10 tons.

Armament: 1-6 pr.; 1 M. Compt. 20.

## V OPANESUL, SMARDAN, RAHOVA . . 1882

L., 55.7 ft. B., 11.7 ft. D. (mean), 5.2 ft. Disp., 45 tons.

I.H.P. 100=8.5 kts. Coal cap., 8 tons.

Armament: 2 M. Compt. 10.

## TORPEDO CRAFT.

Name.	Builder.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Compt.	Fuel Cap.
			ft.	ft.	ft.	tons.		kts.				
<i>Destroyers.</i>												
M *												
=====	P	bdg.	312	31	9.8	1427	40,000	35	{ 3-4.7 in. 7-8 in. }	2	..	..
=====												
=====												
=====												
<i>Torpedo Boats.</i>												
Q												
Naluca . . . . .	G	'88	120.7	11.3	3.0	55	570	16	1-1 pr.	2	20	12
Sborul . . . . .												
Smeul . . . . .												
P												
Major Sontu . . . . .	T	'06	100	13	2.7	45	550	18	{ 13 pr. 1 M. }	2	20	G
Major Giurasku . . . . .												
Major Ene . . . . .												
Major Gr. Ivan . . . . .												
Cap. M. Romano . . . . .												
Cap. V. Maracineanu . . . . .												
Cap. Lascar Bogdan . . . . .												
Locot. Calinescu . . . . .												

NOTES.—Builders: P = Pattison, Naples; G = Graville; T = Thames Iron Works. Destroyers have Tosi turbines and burn oil.

[There are also the torpedo launches, Arges, Trotus, and Vedeia, of 32 tons, 140 I.H.P., built '95, carrying spar torpedoes.]

## TRAINING SHIPS.

**X ALEXANDRU CEL BUN** . . . . . 1882  
 L., 75 ft. B., 15 ft. D. (mean), 5.7 ft. Disp., 104 tons.  
 I.H.P. 120=9 kts. Coal cap., 12 tons.  
 Armament: 4 M.; 2-14 in. Torpedo tubes.  
 (Torpedo School Ship.)

**X MIRCEA** . . . Blackwall, 1882. Composite-built.  
 L., 118 ft. B., 25 ft. D. (mean), 11.5 ft. Disp., 350 tons.  
 I.H.P. 160=8.5 kts. Coal cap., 30 tons. Oil, tons.  
 Armament: 2-14 pr.; 1-1 pr.; 1 M. Compt. 80.  
 (Training Brig.)

## POLICE LAUNCHES.

**V PANDURUL, POTERASUL, VEGHEATORUL, GRANICERUL, SATINELA**  
 1882  
 L., 49 ft. B., 7.9 ft. D., 3.3 ft. Disp., 10 tons.  
 I.H.P. 25=10 kts. Coal cap., 1 ton.  
 Armament: 2 M.; two spar torpedoes. Compt. 5.

**V RADUNICA** . . . . . 1900  
 L., 46 ft. B., 7.9 ft. D., 3.3 ft. Disp., 10 tons.  
 I.H.P. 25=8 kts. Coal cap., 1½ tons.  
 Armament: 2 M.; two spar torpedoes. Compt. 5.

## MOTOR BOATS.

**V A, B, C, D, E** . . . . . 1904  
 L., 30.5 ft. B., 6 ft. D., 2.2 ft. Disp., 3½ tons.  
 Speed: 7 kts. Armament: 1 M.

## PADDLE-STEAMERS.

**V ROMANIA** . . 1862. 110 tons. **PRUTUL** . . 1893. 31 tons.  
 Armament: 2 M. (*Prutul* on the Pruth.)

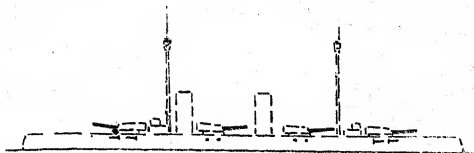
## HULKS, ETC.

**Z STEFAN CEL MAR** . . . . . Training Ship.  
 1 Mine-laying Lighter, 100 tons. 3 oil tanks. 2 tugs,  
 125 tons.

## RUSSIA

(For ships of Black Sea Fleet, see pp. 355-362.)

## BATTLESHIPS.



## A

<b>GANGUT</b> . . . . .	New Admiralty,	7.10.11.	Laid down, 16.6.09
<b>POLTAVA</b> . . . . .	"	10.7.11.	" "
<b>PETROPAVLOVSK</b> . . . . .	Baltic Works,	9.9.11.	" "
<b>SEVASTOPOL</b> . . . . .	"	29.6.11.	" "

L., w.l. 590.5 ft. B., 87 ft. D. (mean), 27.2 ft. Disp., 23,000 tons.

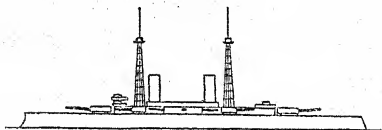
I.H.P. 42,000=23 kts. Coal cap., 1000/3000 tons. Oil, 1170 tons.

Engines: Parsons turbines, *Gangut* and *Poltava* by Franco-Russian Co.; others by builders. Boilers, Yarrow.

Armour: Krupp. Complete belt, 16 ft. wide, 8.8 in. amidships, tapering to 4.9 in. at ends; main deck, side, 4.9 in. amidships, tapering to 2.9 in. at bow; turrets and barbettes, 8 in.; C.T., 10 in.; deck, sloping, 3 in.; lateral bulkheads, 2 in.

Armament: 12-12 in. (50 cal.) in threes in turrets on centre line, 16-4.7 in. (50 cal.) on main deck behind armour; 4-3 pr.; 8 M. Torpedo tubes, 4-18 in. submerged.

(Design and supervision of building by John Brown & Co.)

**B**

**IMPERATOR PAVEL I.** . Baltic Works, 7.9.07. Laid down, 15.4.04  
**ANDREI PERVOSVANNYI** . New Admiralty, 20.10.06. „ 28.4.03

L., w.l. 454 ft., o.a. 460 ft. B., 80 ft. D. (mean), 27 ft. Disp.,  
 17,400 tons.

I.H.P. 17,600=18 kts. Coal cap., 1600/3100 tons. Oil, tons.

Engines: 2 sets 3 expans., both by Baltic Works. Boilers,  
 Belleville.

Armour: Krupp. Complete belt, 8.5 in. amidships, tapering  
 to 5 in. at bow and 4 in. at stern; lower edge, 3 in.; main  
 deck side, 5 in. amidships, tapering to 3.5 in. at ends;  
 main turrets and barbettes, 8 in.; secondary turrets and  
 barbettes, 6 in.; bases of both (behind armour), 5 in.;  
 battery, 6 in.; upper battery, 3.5 in.; C.T., forward, 8 in.;  
 aft, 6 in.; deck, sloping, 2.2 in. to 1.2 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.;  
 14-8 in. (50 cal.), eight in pairs in turrets, six in battery;  
 12-4.7 in. in upper battery; 4-3 pr.; 8 M. Torpedo  
 tubes, 5-18 in. submerged, bow and broadside.

Compt. 933.

(These ships as originally designed were to have been enlarged  
 editions of the *Slava*. As a result of the Japanese war the  
 design was altered and the armour made thinner and more  
 extensive.)



C

**SLAVA** . . . New Admiralty, 29.S.03. Laid down, 1.11.02

L., p.p. 370.5 ft. ; o.a. 397 ft. B., 76 ft. D., 26.2 ft. Disp., 13,516 tons. (D. and Disp. as completed are much greater.)

I.H.P. 15,800=18 kts. Coal cap., 750/1350 tons.

Engines : 2 sets 3 expans. by Baltic Works. Boilers, Belleville.

Trials : I.H.P. 16,400=17.2 kts.

Armour : Krupp. Complete belt, 6.8 ft. wide ; 7.5 in. amidships, tapering to 5.7 in. at ends ; lower deck side, 6 in. amidships, tapering to 4 in. at ends ; main turrets and barbettes, 10 in. ; secondary turrets and barbettes, 6 in. with 4-in. hoists ; battery and casemates, 3 in. ; C.T., 8 in. ; deck, sloping, 2.3 in. to 1.7 in. ; lateral bulkheads, and side from belt to bilge amidships, 1.2 in.

Armament : 4 - 12 in. (40 cal.) in pairs in turrets f. and a. ; 12-6 in. (45 cal.) in pairs in turrets ; 20-3 in. (12 pr.) ; 4-3 pr. ; 8 M. Torpedo tubes, 4-18 in., two above water, bow and stern, two submerged, broadside.

Compt. 825.

\* (Three sister ships, *Imperator Aleksandr III.*, *Borodino*, and *Knyaz Suworov*, were sunk in the Battle of the Sea of Japan, 27.5.05. A fourth, *Orel*, was captured next day, and is now the Japanese *Iwami*.)

**C**

**TSESAREVITCH** . . . La Seyne, 23.2.01. L.d. dn. 18.5.99

L., o.a. 388.7 ft. B., 76.1 ft. D. (mean), 26 ft. Disp., 13,000 tons.

I.H.P. 16,300=18 kts. Coal cap., 800/1350 tons.

Engines : 2 sets 3 expans. Boilers, Belleville.

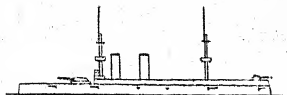
Trials : I.H.P. 17,308=19.4 kts.

Armour: Krupp. Complete belt, 6.5 ft. wide; 9.8 in. amidships at top, 7 in. at bottom, tapering to 6.7 in. at ends; lower deck side, 7.8 in. amidships, tapering to 4.7 in. at ends; main turrets and barbets, 10 in.; secondary turrets and barbets, 6 in. with 4 in. hoists; battery and casemates, 3 in.; C.T., 8 in.; deck, sloping, 2.3 in. to 1.7 in.; lateral bulkheads, and side from belt to bilge amidships, 1.2 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 12-6 in. (45 cal.) in pairs and turrets; 16-3 in. (12 pr.); 4-3 pr.; 2-1 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 774.

(Torpedoed at Port Arthur, 9.2.04. Damaged in Battle of the Yellow Sea, 10.8.04, and interned at Tsingtau.)

**D**

**IMPERATOR ALEKSANDR II** . . . New Admiralty, 26.7.87. 1905

L., o.a. 346.6 ft. B. 67 ft. D. (max.), 25.7 ft. Disp., 9244 tons.

I.H.P. 8500=15 kts. Coal cap., 1200 tons.

Engines: 2 sets compound. Boilers, cylindrical.

Armour: Compound. Complete belt, 9 ft. wide, 14 in. amidships, tapering to 4 in. at ends; bulkhead forward, 6 in.; barbette, 12 in. with a thin hood; on corners of battery, 6 in.; C.T., 10 in.; deck, flat on belt, 2.5 in.

Armament: 2-12 in. (30 cal.) in barbette forward; 5-8 in. (45 cal.), four in battery behind 6-in. armour, one aft in shield; 8-6 in. (45 cal.), four in battery, two forward, two aft; 4-4.7 in.; 4-3 pr.; 2-1 pr.; 4 M.

Compt. 648.

(Gunnery School Ship.)

**D**

**PETR VELIKII** . . . . . 1872. Reconstructed, 1905

L., 328.2 ft. B., 62.3 ft. D. (mean), 23.7 ft. Disp., 9665 tons.

I.H.P. 8260=13 kts. Coal cap., 1200 tons.

Armour: Iron. Complete belt, 14 in. amidships, tapering to 8 in. at ends; lower deck redoubt, 8 in. to 6 in.; turrets, 8 in. to 6 in.; deck, flat on belt, 3 in.

Armament: 4-8 in. (50 cal.) in pairs in turrets f. and a.; 12-6 in. (45 cal.); 12-3 in. (12 pr.); 4-6 pr.; 3-3 pr.; 2-1 pr.

(Gunnery School Ship.)



## BATTLE-CRUISERS.

## A

<b>BORODINO</b>	. . . . .	New Admiralty, bdg.	Laid down, 19.12.12
<b>NAVARIN</b>	. . . . .	" "	" "
<b>ISMAIL</b>	. . . . .	Baltic Works,	" "
<b>KINBURN</b>	. . . . .	" "	" "

Length, 750 ft. Beam, 100 ft. Disp., 32 500 tons.

I.H.P. 66,000=26·5 kts.

Engines : Turbines by Baltic Works in all. Boilers, Yarrow.

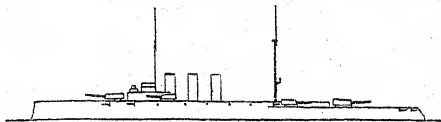
Armour : Krupp. Belt, 10 in. (max.).

Armament : 9—14 in. (45 cal.) in 3 turrets on centre line ; 20—4·7 in. (50 cal.).

Compt. .

(Particulars doubtful.)

## ARMOURED CRUISERS.



E

**RYURIK** . . . . . Barrow, 17.11.06. Laid down, 9.05

L., p.p. 490 ft.; o.a. 529 ft. B., 75 ft. D. (mean), 26 ft.  
Disp., 15,190 tons.

I.H.P. 19,700=21 kts. (with three-quarters of boiler power).  
Coal cap., 1200/2000 tons. Oil, 200 tons.

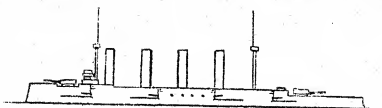
Engines: 2 sets 3 expans. Boilers, Belleville.

Trials: I.H.P. 20,675=21.5 kts.

Armour: Krupp. Complete belt, 12 ft. wide, 6 in. amidships, tapering to 3 in. at ends; main deck side, amidships, 3 in.; main turrets and barbettes, 8 in.; secondary turrets, 7 in.; barbettes, 6 in.; battery amidships, and aft, 3 in.; C.T., 8 in.; S.T. aft, 5 in.; deck, 1 in. on flat, 1.5 in. on slopes; main deck, 1.5 in.; upper deck over battery, 1 in.

Armament: 4-10 in. (50 cal.) in pairs in turrets f. and a.; 8-8 in. (50 cal.) in pairs in turrets on beam; 20-4.7 in. (50 cal.), sixteen in amidships battery, four in after battery; 4-3 pr.; 8 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 998.



## F

**BAYAN** . . . . . New Admiralty, 15.8.07. Laid down, 1905  
**ADMIRAL MAKAROV** . . La Seyne, 27.3.06., „ 3.4.05

L., o.a. 442.9 ft. B., 57.4 ft. D. (mean), 21.3 ft. Disp.,  
 7775 tons.

I.H.P. 16,500=21 kts. Coal cap., 750/1020 tons.

Engines: 2 sets 3 expans. *Ad. Makarov* by builders, others by  
 Franco-Russian Co. Boilers, Belleville.

Trials: *Admiral Makarov*, I.H.P. 18,900=22.55 kts.

Armour: Krupp. Belt for 350 ft. from bow, 6.5 ft. wide, 6.9  
 in. amidships, tapering to 4 in. at ends; lower deck side  
 for 350 ft. from bow, 2.4 in. Bulkhead aft, 5.9 in. Turrets  
 and barbettes, 5.9 in.; battery and casemates, 2.4 in.; C.T.,  
 5.4 in.; deck, sloping, 2 in. behind belt, 2.7 in. aft.

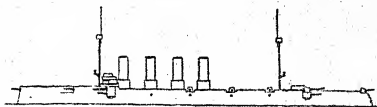
Armament: 2-8 in. (45 cal.) in turrets f. and a.; 8-6 in.  
 (45 cal.), four at corners of battery, four in double athwart-  
 ship casemates; 22-3 in. (12 pr.), eight in battery, fourteen  
 in shields; 4-6 pr.; 4 M. Torpedo tubes, 2-18 in.  
 submerged, broadside.

Compt. 568.

(*Pallada*, sister ship, sunk 1914.)

(These ships are very similar to the Japanese *Aso* (ex *Bayan*)  
 captured at Port Arthur in 1905.)

F



**GROMOVOI** . . . . . Baltic Works, 20.5.99. Laid down, 19.5.98  
L., o.a. 481 ft. B., 68.5 ft. D. (mean), 27.8 ft. Disp., 13,220 tons.

I.H.P. 14,500=19 kts. Coal cap., 800/2270 tons.

Engines: 3 sets 3 expans. Boilers, Belleville.

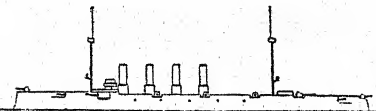
Trials: I.H.P. 15,499=20.1 kts.

Armour: Harvey nickel. Belt, 330 ft. long, 7 ft. wide, 6 in.; B.H., 6 in.; casemates, 5 in.; C.T., 12 in.; deck, sloping, 2.5 in. to 2 in.

Armament: 4-8 in. (45 cal.), two in casemates forward, two in shields aft; 22-6 in. (45 cal.), twelve in casemates, ten in shields; 19-3 in. (12 pr.); 4-3 pr.; 2-1 pr.; 4 M. Torpedo tubes, four submerged, broadside.

Compt. 868.

F



**ROSSIA** . . . . . Baltic Works, 12.5.96. Laid down, 1893

L., o.a. 482 ft. B., 68.5 ft. D. (mean), 26 ft. Disp., 12,195 tons.

I.H.P. 14,500=19 kts. Coal cap., 1000/2530 tons.

Engines: 3 sets 3 expans. Boilers, Belleville (new, 1908).

Trials: I.H.P. 15,523=19.7 kts.

Armour: Harvey. Belt for 350 ft. from stern, 6 ft. wide, 8 in. amidships, tapering to 5 in. at ends; B.H., 7 in. forward, 5 in. aft; lower deck side over engines, 4 in.; battery B.H., 6 in.; casemates, 2 in.; C.T., 12 in.; deck, flat on belt, 2.2 in. to 2 in.

Armament: 4-8 in. (45 cal.) as in *Gromovoi*; 22-6 in. (45 cal.), all unprotected; 15-3 in. (12 pr.); 16-1 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 833.

## CRUISERS.

## G

<b>ADMIRAL BUTAKOV</b>	. . .	Putilov, bdg.	Ld. dn.	29.11.13
<b>ADMIRAL SPIRIDOV</b>	. . .	" "	" "	" "
<b>ADMIRAL GREIQ</b>	. . .	Revel,	" "	7.12.13
<b>SVYETLANA</b>	. . .	" "	" "	" "

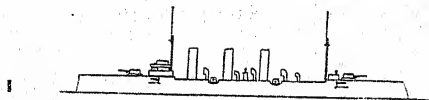
L., 507 ft. B., 50 ft. D. (mean), 18.4 ft. Disp., 7085 tons.  
I.H.P. = 30 kts.

Engines: Turbines by builders.

Armour: Krupp. Belt, 3 in.; deck, 1 in.

Armament: 16—6 in. (50 cal.); 5—9 pr. Torpedo tubes, 4.

(*Muraviev Amurskii* and *Nevelskoi*, 4428-ton cruisers building at Elbing, seized by Germany, 1914.)



<b>BOGATYR</b>	. . . . .	Stettin,	30.1.01.	Laid down, 1898
<b>OLEG</b>	. . . . .	New Admiralty,	27.8.03	" 21.11.01

L., p.p. 416.6 ft.; w.l. 433 ft.; o.a. 440.2 ft. B., 54.4 ft. D. (mean), 20.6 ft. Disp., 6675 tons.

I.H.P. 19,500=23 kts. Coal cap., 900/1260 tons.

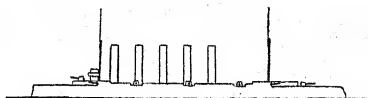
Engines: 2 sets 3 expans. *Bogatyr* by builders, *Oleg* by Franco-Russian Co. Boilers, Normand.

Trials: *Bogatyr*, I.H.P. 20,270=24.1 kts.

Armour: Krupp. Deck, 2.7 in. to 1.4 in.; turrets, 5 in.; casemates, 3.1 in.; C.T., 5.5 in.; funnel bases, 2 in.

Armament: 12—6 in. (45 cal.), four in pairs in turrets f. and a., four in casemates, four in shields; 12—3 in. (12 pr.); 8—3 pr.; 2—1 pr.; 2 M. Torpedo tubes, 2—18 in. submerged, broadside.  
Compt. 573.

(*Bogatyr* was wrecked at Vladivostock during the Japanese war but was salvaged. *Oleg* was interned at Manila after the Battle of the Sea of Japan, 27.5.05.)



**ASKOLD** . . . . . Germania, 15.3.00. Laid down, 1899

L., o.a. 433.3 ft. B., 49.1 ft. D. (mean), 20.4 ft. Disp., 5905 tons.

I.H.P. 19,000=23 kts. Coal cap., 720/1050 tons.

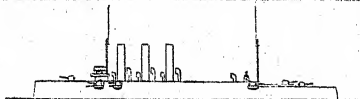
Engines: 3 sets 3 expans. Boilers, Schultz.

Trials: I.H.P. 20,434=23.4 kts. (24.5 max.).

Armour: Krupp. Deck, 3 in. to 1.5 in.; C.T., 6 in.

Armament: 12-6 in. (45 cal.) in shields; 12-3 in. (12 pr.); 8-3 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside. Compt. 650.

(Was interned at Shanghai after the Battle of the Yellow Sea, 10.8.04.)



**DIANA** . . . . . St. Petersburg, 13.10.09. Laid down, 7.96

**AVRORA** . . . . . „ 24.5.00. „ 31.10.96

L., o.a. 416 ft. B., 55 ft. D. (mean), 21 ft. Disp., 6731 tons.

I.H.P. 11,610=20 kts. Coal cap., 964/1430 tons.

Engines: 3 sets 3 expans. by Franco-Russian Co. Boilers, Belleville (sheathed and coppered).

Trials: *Diana*, I.H.P. 12,129=19.3 kts.; *Avrora*, I.H.P. 11,971=19 kts.

Armour: Harvey. Deck, 3 in. to 2 in.; C.T., 6 in.

Armament: 8-6 in. (45 cal.) in shields; 20-3 in. (12 pr.); 2-1 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 573.

(*Diana* was interned at Saigon after the Battle of the Yellow Sea, 10.8.04. *Avrora* was interned at Manilla after the Battle of the Sea of Japan, 27.5.05.)

(*Zhemtchug*, 3130-ton cruiser, sunk 1914.)

## DESTROYERS.

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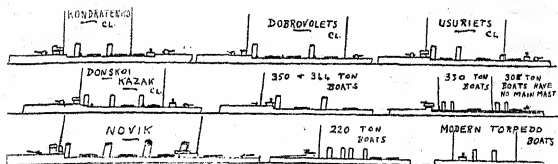




## Destroyers—continued.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
N			ft.	ft.	ft.	tns.		kts.		tns.		
Inzh. Mech. Zvyerev	'05	E							2-12 pr.; 6 M.			
Inzh. Mech. Dmitriev	'05	E										
Kapitan Yurasovskii	'05	E										
Leit. Sergiyev	'05	E	208.5	22.9	5.9	350	6200	27		3	95	64
Bditelnyi	'05	E										
Boevoi	'05	E										
Burnyi	'05	E							1-12 pr.; 5-3 pr.	3	95	64
Vnimatelnyi	'05	E										
Vnushitelnyi	'05	E										
Vnosilnyi	'05	E										
Bezposhtchadnyi	'99	E	202.6	22.3	7.4	344	6000	27		3	95	64
Bezstrashnyi	'99	E										
Bezshumnyi	'99	E							2-12 pr.; 6 M.			
Iskusnyi	'05	S										
Ispolnitelnyi	'05	S										
Kryepkii	'05	S										
Legkii	'05	S										
Lovkii	'05	M										
Letutchii	'05	M	210	21	5.8	330	5700	26	1-12 pr.; 3-3 pr.	2	60	65
Lichoi	'05	M										
Myetkii	'05	F										
Molodetskii	'05	F										
Moshtchnyi	'05	F										
Leit. Burakov	'05	F										
Tverdyi	'06	V							1-12 pr.; 5-3 pr.			
Totchnyi	'06	V										
Trevozhnyi	'06	V										
Leit. Malyeev	'06	V	191	18.5	6.0	297	3800	25		2	60	59
Inzh. Mech. Anastasov	'06	V										
Statnyi	'01	X							1-12 pr.; 3-3 pr.			
Serdityi	'01	X										
Smyelyi	'01	X	190	18.5	5.7	240	3800	25		2	60	59
Skoryi	'01	X										
Vlastnyi	'00	S	185.7	19.5	6.4	308	5700	26		2	60	59
Grozovoi	'00	S	185.7	19.5	6.4	308	5700	26		2	60	59
Prozorlivyi	'99	N							1-12 pr.; 3-3 pr.			
Retivyi	'00	N										
Ryezvyi	'00	N										
Ryanyi	'00	N	190	18.5	5.5	220	3800	27		2	60	52
Poslushnyi	'00	I										
Podvizhnyi	'00	I										
Porazhayushchii	'99	I										
Prochnyi	'99	I										
Pritkii	'95	Y	190	18.5	5.5	220	4000	29				

NOTES TO DESTROYERS.—Builders: P=Putilov; H=Helsingfors; C=Crichton, Abo; R=Riga; K=Kiel; N=Nevski Works; E=Schichau, Elbing; S=La Seyne; M=Normand, Havre; F=Havre, F. & C.; V=Vladivostock, re-erected; X=Pt. Arthur, re-erected; I=Izhora; Y=Yarrow, Poplar; T=Petersburg Metal Works; L=Lange & Becker, Reval; Re=Russian Shipbuilding Co., Reval. All have Yarrow or Normand boilers. *Novik* has turbine engines by Vulkan, Stettin, and burns oil fuel. *Pritvit* was originally named *Sokol*.



## TORPEDO BOATS.

Number.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
			ft.	ft.	ft.	tns.		kts.			tns.	
<b>O</b>												
4 Nos. 223, 222, 220, 219	'02/4	C	147.7	15.3	4.9	150	4200	29	2-3 pr.	{	1 40	25
5 Nos. 214-213	'02	N	147.7	15.3	4.9	150	4200	29			1 40	25
2 Nos. 212, 213	'02	C	174.7	17.2	4.9	186	2500	24			3 50	26
5 Nos. 134, 136, 138, 140, 142	'06/7	N										
3 Nos. 128, 129, 211	'07/8	I	137.7	14.7	6.6	120	2000	21	2-1 pr.	2	30	20
2 Nos. 119, 120	'04	C										
2 Nos. 205, 206	'06	M	153.5	12.2	8.2	108	887	19	1-1 pr.	3	29	20
<b>P</b>												
1 No. 1	'07	U	90	12	5	35	600	20	1-3 pr.; 2 M.	1	..	7

NOTES.—Builders, see above. U=United States. No. 211, 205, 206 are in the Pacific. No. 1 has Standard internal combustion engines.

## SUBMARINES.

Name.	Date.	Type.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Armament.
<b>S</b>			ft.	ft.	tons.		kts.	
Bars . . .	bdg.	..	..	..	..	..	..	..
Vepr . . .	bdg.	..	..	..	..	..	..	..
Volk . . .	bdg.	..	..	..	..	..	..	..
Gepard . . .	bdg.	..	..	..	..	..	..	..
Lvitsa . . .	bdg.	..	..	..	..	..	..	..
Kuguar . . .	bdg.	..	..	..	..	..	..	..
Leopard . . .	bdg.	..	..	..	..	..	..	..
Pantera . . .	bdg.	..	..	..	..	..	..	..
Rys . . .	bdg.	..	..	..	..	..	..	..
Tigr . . .	bdg.	..	..	..	..	..	..	..
Tur . . .	bdg.	..	..	..	..	..	..	..
Yaguar . . .	bdg.	..	..	..	..	..	..	..
1 boat . . .	'12	B	..	..	432/—	—/—	16/9.5	..
Akula . . .	'09	B	184	12.3	360/400	—/—	—/—	..
Minoga . . .	'08	B	117	9.2	117/177	—/—	12/8	2 tubes
Potchtovyi . . .	'08	D	..	..	134/—	—/—	—/—	..
Amigator . . .	'08	L	132	14	450/500	1200/	15/6.5	4 tubes
Drakon . . .	'08	L						
Kaiman . . .	'08	L						
Krokodil . . .	'08	L						
Bytchek . . .	'05	L	70	12	150/175	400/—	10/7	3 tubes
Kefal . . .	'05	L						
Paltus . . .	'05	L						
Plotva . . .	'05	L						
Sig . . .	'05	L	67	11.7	140/165	400/—	10/7	3 tubes
Osetr . . .	'05	L						
Makrel . . .	'07	B						
Okun . . .	'07	B						
Sheremetev . . .	'04	B	110	11.2	145/200	100/60	8/6	4 tubes
Kasatka . . .	'04	B						
Skat . . .	'04	B						
Nalim . . .	'04	B						
Delfin . . .	'04	B	65	11.2	110/150	—/—	8/6	4 tubes
Byeluga . . .	'04	H						
Peskar . . .	'04	H						
Sterlyad . . .	'04	H						
Shtchuka . . .	'04	H	66	11.7	110/120	160/	9.5/7.5	2 tubes
Som . . .	'04	H						
			64	11.7	105/115	—/—	9.5/7.5	2 tubes

NOTES.—Types: B=Bubnov; D=Drzevyeki; L=Lake; H=Holland. *Bytchek* to *Osetr*, *Sheremetev* to *Delfin*, *Shtchuka* and *Som* are in the Pacific. *Potchtovyi* was built by public subscription. All have internal combustion and electric motors. *Alligator* class carry 2 machine guns.



## GUNBOATS.

R

<b>GILYAK</b> . . . . .	New Admiralty, 27.10.06
<b>BOBR</b> . . . . .	Nevski Works, 1907
<b>SIVUTCH.</b> . . . . .	" 1.8.07
<b>KOREËTS</b> . . . . .	Putilov Works, 1907

L., o.a. 218.2 ft. B., 36 ft. D. (max.), 7.9 ft. Disp., 875 tons.  
 I.H.P. 900=12 kts. Coal cap., 100 tons.  
 Engines: 2 sets 3 expans. Boilers, Belleville.  
 Armament: 2-4.7 in. (45 cal.); 4-3 in. (12 pr.); 3 M.  
 Compt. 140.

R

**CHIVINETS** . . . . . New Admiralty, 1904

L., o.a. 231.2 ft. B., 37 ft. D. (max.), 11.3 ft. Disp., 1340 tons.  
 I.H.P. 1400=13.5 kts. Coal cap., 100/218 tons.  
 Engines: 1 set 3 expans. by Franco-Russian Works.  
 Trials: I.H.P. 1428=13.6 kts. Boilers, Belleville.  
 Armament: 2-4.7 in. (45 cal.); 8-3 in. (12 pr.); 4 M.  
 Compt. 161.



R

**CHRABRYI** . . . . . New Admiralty, 21.11.95

L., o.a. 237.1 ft. B., 41.6 ft. D. (max.), 12.5 ft. Disp., 1735 tons.  
 I.H.P. 2000=14 kts. Coal cap., 125 tons.  
 Engines: 2 sets 3 expans. Boilers, Nielaussé.  
 Armour: Compound. Belt for 200 ft. from stern, 5 in. amidships, 3 in. aft; B.H. forward, 3.2 in.; deck, sloping, 1.5 in. to .7 in.; C.T., 1 in.  
 Armament: 2-8 in. (45 cal.) in shields in sponsons forward; 1-6 in. (45 cal.) aft; 5-3 pr.; 7-1 pr. Torpedo tube, 1-14 in. in bow.  
 Compt. 197.  
 (Engineering School Ship.)

**R****GROZYASHTCHII** . . . . . St. Petersburg, 31.5.90

L., o.a. 237.1 ft. B., 41.6 ft. D. (max.), 12.2 ft. Disp., 1637 tons.

I.H.P. 2000=14 kts. Coal cap., 110 tons.

Engines: 2 sets 3 expans. Boilers, Belleville.

Armour: Compound. Belt for 200 ft. from stern; 5 in. amidships; 3 in. aft; B.H. forward, 3.7 in.; deck, flat on belt, 1.5 in. to .7 in.; C.T., 1 in.

Armament: 1-9 in. (35 cal.) in shield forward; 1-6 in. (45 cal.) aft; 4-3 in. (12 pr.); 6-3 pr. Torpedo tube, 1-14 in. in bow. Compt. 176.

**R****MANDZHUR** . . . . . Copenhagen, 4.12.86

L., o.a. 219 ft. B., 42 ft. D. (max.), 12.2 ft. Disp., 1437 tons.

I.H.P. 1400=13 kts. Coal cap., 220 tons

Armament: 2-8 in. (35 cal.); 1-6 in. (35 cal.); 4-4 in. Torpedo tube, 1-14 in. in bow.

Compt. 156.

(In the Pacific.)

**RIVER GUNBOATS.****R****GROZA, SHKVAL, SHTORM, SMERTCH, TAIFUN, URAGAN, VICHR, VYUGA** . . . . . Baltic Works, 1910 (re-erected)

L., o.a. 232.6 ft. B., 42 ft. D. (max.), 4.5 ft. Disp., 946 tons.

I.H.P. 250=11 kts. Diesel engines. 2 screws.

Armament: 2-6 in. (45 cal.); 4-4.7 in. (45 cal.); 7 M.

(On the Amur.)

**R****BURYAT, KALMYK, KIRGIZ, KOREL, MONGOL, OROTCHANIN, SIBIRYAK, SYRYANIN, VOGUL, VOTYAK** . . . . . 1907 (re-erected)

L., o.a. 165 ft. B. 27 ft. D. (max.), 2 ft. Disp., 190 tons.

I.H.P. 500=11.5 kts. Coal cap., 145 tons.

Armament: 2-6 pr.; 4 M. Compt. 63.

(On the Amur.)

## AUXILIARY CRUISERS.

Name. T	Where and When Built.	Length. ft.	Beam. ft.	Draught. ft.	Gross Tonnage.	I.H.P.	Speed. kts.
Don (ex <i>Fürst Bismarck</i> )	Stettin	'90 504	57.6	23	8430	16,400	19
Kuban (ex <i>Augusta Victoria</i> )	Stettin	'89 522	56.4	23	8479	12,280	18.5
Terek (ex <i>Columbia</i> )	Birkenhead	'89 461.6	55.8	23	7241	12,000	18.5
Saratov .	Newcastle	'91 439	50	24	5427	10,000	19
Petersburg .	Newcastle	'94 439	52	24	5432	10,500	19
Cherson .	Newcastle	'95 493	54.2	24.5	7297	12,500	19
Smolensk .	Newcastle	'00 486	58.2	24.5	7270	16,500	20

NOTES.—The first three are Government property, and were bought in 1904-05 from the Hamburg-America Co. *Terek* was bought by Spain in 1898 and renamed *Rapido*, but sold again to her former owners. The last four belong to the Volunteer Fleet; the last three of them were called during the Japanese war, *Dnyepir*, *Lena*, and *Rion*. *Cherson* and *Smolensk* have Belleville boilers.

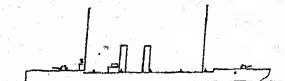
There are the following other steamers of the Volunteer Fleet:—*Tambov*, *Vladimir*, *Yaroslav*, *Kiev*, *Kazan*, *Nijni Novgorod*, *Orel*, *Pensa*, *Poltava*, *Ryazan*, and *Simbirsk* of 11.5 to 15 kts.

## Chartered Vessels on the Yenesei.

X  
Liet. Malign. Steel. Paddle. Built at Dumbarton, '93.  
Length, 165 ft. Beam, 22 ft. Gross tons, 273. H.P.N. 73.

X  
Liet. Skouratoff. Steel. Sailing schooner. Built at Dumbarton, '93. Gross tons, 220.

X  
Liet. Ovzin. Steel. 2 screws. Built at Dumbarton, '93.  
Length, 116 ft. Beam, 23 ft. 5 in. Gross tons, 200.  
H.P.N. 59.



## MINE-LAYERS.

W

AMUR . . . . . Baltic Works, 29.6.07

YENISEI . . . . . „ 18.7.06

L., o.a. 320 ft. B., 46 ft. D. (max.), 14.5 ft. Disp., 2926 tons.

I.H.P. 4700=17 kts. Coal cap., 500/580 tons.

Engines: 2 sets 3 expans. Boilers, Belleville.

Armament: 1-4.7 in. (45 cal.); 11-3 in. (12 pr.); 4 M.

Carry 360 mines. Compt. 318.

W

VOLGA . . . . . New Admiralty, 1905

L., o.a. 212 ft. B., 39 ft. D. (max.), 13.7 ft. Disp., 1711 tons.

I.H.P. 1600=13 kts. Boilers, Babcock &amp; Wilcox.

Armament: 4-3 pr. Compt. 226.

W

LADOGA . . . . . St. Petersburg, 1869. Reconstructed, 1878 and 1909  
(ex *Minin*, armoured cruiser.)

L., w.l. 295 ft. B., 49.5 ft. D. (max.), 25.4 ft. Disp., 6136 tons.

I.H.P. 5290=12.5 kts. Coal cap., 850 tons.

Armour: Iron. Complete belt, 7 in. to 4.5 in.; barbettes, 8 in.

Armament: 10-6 in. (45 cal.); 6-3 in. (12 pr.); 6-3 pr.;  
2-1 pr.; 4 M.

W

NAROVA . . . . . St. Petersburg, 1873. (ex *General Admiral*.)ONECA . . . . . „ 1875. (ex *Gertsog Edinburgskii*.)L., o.a. 285.5 ft./286.2 ft. B., 48 ft. D. (max.), 24 ft./24.4 ft.  
Disp., 4838 tons/5031 tons.

I.H.P. 5590=13 kts. and 4472=12.3 kts.

Armour: Iron. Complete belt, 6 in.

Armament: 6-6 in. (45 cal.); 6-3 in. (12 pr.); 8-3 pr.;  
2-1 pr.

W

SHILKA . . . . . 3500 tons

(In the Pacific.)

## MINE-SWEEPERS.

W

VZRYV, MINREP, SAPAL, PROVODNIK, FUGAS . . . Izhora Works, 1911  
Disp., 150 tons. Speed, 12 kts.

W ISKRA, PLAMYA, PATRON . . . Middlesborough, 1913-14

Disp., 500 tons.

## DEPÔT SHIPS.

W

ANGARA . . . . . 1900

L., 352 ft. B., 46 ft. D., 24 ft. Disp., 5920 tons.

I.H.P. 2000=12 kts. Coal cap., 1057 tons.

(Workshop and Mother-Ship for Destroyers.)

W

KSENIA . . . . . South Shields, 1900. (ex *Cayo Soto*.)

L., 346.3 ft. B., 45.1 ft. D., ft. Disp., 5900 tons.

(Workshop and Mother-Ship for Submarines in the Pacific.)

W

OKA . . . . . building. 2000 tons

W

CHABAROVSK . . . . . 1895

L., 250 ft. B., 36 ft. D., 14.5 ft. Disp., 2760 tons.

I.H.P. 1800=12.5 kts. Single screw.

(School Ship and Mother-Ship for Submarines.)

W

BAKAN . . . . . St. Petersburg, 10.96

L., 180 ft. B., 25 ft. D., 11 ft. Disp., 833 tons.

I.H.P. 800=11 kts.

Armament: 2-3 pr.; 2-1 pr.

Compt. 98.

(Torpedo Transport and Tender.)

W

BUG . . . . . Motala, 1891

L., 203.3 ft. B., 32.6 ft. D. (mean), 14.7 ft. Disp., 1360 tons.

I.H.P. 2800=14 kts. Coal cap., 90 tons.

Armament: 6-3 pr.; 4-1 pr.

Compt. 120.

(Mine and Torpedo Transport.)



## TRAINING SHIPS.

**X OKEAN** . . . . . Howaldt, Kiel, 8.2.02

L., p.p. 470 ft.; o.a. 490 ft. B., 56.8 ft. D., 25 ft. Disp., 11,897 tons.

I.H.P. 11,000=18 kts. Coal cap., 1600 tons.

Engines: 3 sets 3 expans. Boilers, Belleville, Niclausse, Yarrow, and Thornycroft.

Compt. 311.

(Engineers' Training Ship and Transport.)

**X****DVINA** . . . . . St. Petersburg, 1.6.88. Reconstructed, 1903  
(ex *Pamyat Azova*, armoured cruiser.)

L., 384.5 ft. B., 56.5 ft. D. (max.), 26.8 ft. Disp., 6644 tons.

I.H.P. 5644=16 kts. Coal cap., 967 tons.

Engines: 3 sets 3 expans. Boilers, Belleville (1903).

Armour: Compound. Partial belt, 10 in. to 8 in.

Armament: 12-6 in. (45 cal.) unprotected; 2-3 in. (12 pr.); 10-3 pr.; 2-1 pr.; 4 M. Compt. 633.

(Training Ship and Harbour Defence Ship.)

**X RYND** . . . . . Kronstadt, 1885

L., o.a. 260.5 ft. B., 45 ft. D. (max.), 19.9 ft. Disp., 3537 tons.

I.H.P. 3093=13.3 kts. Coal cap., 500/700 tons.

Armour: Deck, 1.5 in.

Armament: 4-6 in. (old); 2-3 in. (12 pr.); 2-3 pr.; 6-1 pr. Torpedo tube, 1 above water. Compt. 274.

**X AFRIKA** . . . . . Philadelphia, 1877

L., o.a. 271 ft. B., 38 ft. D. (max.), 17.5 ft. Disp., 2530 tons.

I.H.P. 1417=12.7 kts.

Armament: six field guns. Torpedo tubes, 4 above water.

(Divers' Training Ship.)

**X RICA** . . . . . Hamburg, 1899. (ex *Belgravia*.)

L., 501.1 ft. B., 62.2 ft. D., 23 ft. Gross tonnage, 10,982.

Disp. (about) 14,500 tons.

I.H.P. 4000=12 kts.

Armament: 2-6 in.; 8-4.7 in.; 8-3 in. (12 pr.); 4-6 pr.;

4-3 pr.; 18 M. Compt. 273.

(Gunnery School and Transport.)

**X VYERNYI** . . . . . Baltic Works, 21.11.95. Barque-rigged**VOIN** . . . . . Motala, 1893. ,,L., o.a. *Vyernyi*, 204.2 ft.; *Voin*, 203 ft. B., 36 ft. D. (max.),14.5 ft. Disp., *Vyernyi*, 1287; *Voin*, 1282 tons.

I.H.P. 400=9 kts. Boilers, Belleville.

Armament: 4-12 pr.; 2-3 pr.; 2-1 pr. Torpedo tube, 1  
above water. Compt. 190.**X LASTOTCHKA** . . . . . Poplar, 1904. (ex *Caroline*.)

L., 152.5 ft. B., 15.2 ft. D. (mean), 5 ft. Disp., 140 tons.

I.H.P. =18 kts. Turbine engines, 1 screw.

Compt. 23. (Engineers' Training Ship.)

**X NIKOLAEV** . . . . . Stettin, 1894. (ex *Palatia*.)

L., 461.1 ft. B., 52 ft. D., 25 ft. Gross tonnage, 7326. Disp.

(about) 13,500 tons.

I.H.P. 4200=13 kts.

Armament: 2-3 in. (12 pr.); 4-3 pr. Torpedo tubes, 4 above  
water. Compt. 272.

(Torpedo School and Transport.)

**X EVROPA** . . . . . Philadelphia, 1873

L., o.a. 307 ft. B., 37 ft. D., 17 ft. Disp., 3160 tons.

I.H.P. 2000=13 kts.

Armament: 4-3 pr. Torpedo tubes, 2 above water, 1  
submerged. (Mining and Torpedo School.)

## YACHTS.

**X SHTANDART** . . . . . Copenhagen, 1895  
 L., w.l. 370 ft.; o.a. 425 ft. B., 52.5 ft. D. (mean), 20 ft.  
 Disp., 5557 tons.  
 I.H.P. 10,600=21 kts. Coal cap., 900 tons.  
 Engines: 2 sets 3 expans. Boilers, Belleville.  
 Armament: 8-3 pr. Compt. 370.  
 (Tenders; *Peterhof*, *Buntchug*, *Dagmar*, steam launches.)

**X POLARNAYA ZVYEZDA** . . . . . St. Petersburg, 31.5.90  
 L., 315.5 ft. B., 46 ft. D. (mean), 17.5 ft. Disp., 3640 tons.  
 I.H.P. 6602=18.8 kts.  
 Armament: 6-3 in. (12 pr.). Compt 327.

**X ALEKSANDRIA** . . . . . Baltic Works, 23.8.03  
 L., 226 ft. B., 26 ft. D., 6.3 ft. Disp., 500 tons.  
 I.H.P. 975=14.5 kts. Boilers, Belleville.  
 (Paddle Steamer for the Neva, etc.)

**X TSAREVNA** . . . . . Hull, 1874  
 L., 187.5 ft. B., 28 ft. D. (mean), 11 ft. Disp., 800 tons.  
 I.H.P. 800=14 kts. Boilers, Belleville.  
 Armament: 4-3 in. (12 pr.). Compt. 82.

**X MAREVO** . . . . . 1878. Reconstructed, 1900  
 L., 72.2 ft. B., 15.2 ft. D. (mean), 5.5 ft. Disp., 52 tons.  
 I.H.P. 135=10 kts. Boilers, Belleville.

**X NEVA** . . . . . Åbo, 1905  
 L., 200 ft. B., 26 ft. D. (mean), 5.5 ft. Disp., 507 tons.  
 I.H.P. 1100=15 kts. Boilers, Belleville.  
 Armament: 2-1 pr. Compt. 76.  
 (Paddle Steamer, Yacht of the Minister of Marine.)

**X STRYELA** . . . . . St. Nazaire, 1891  
 L., 168 ft. B., 22.5 ft. D. (mean), 6 ft. Disp., 300 tons.  
 I.H.P. 1500=17 kts. Boilers, Belleville.  
 (Yacht of the General-Admiral.)  
 (Tenders, *Golubka* and *Pribod*, steam launches.)

## TRANSPORTS.

Name.	Date.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.
X							
		ft.	ft.	ft.	tons.		kts.
Anadyr . . . . .	1896	478	54	28	12,000	..	13
Artelshtchnik . . . . .	1858	154	24	12	892	360	10
Borgo . . . . .	1882	301.5	37.4	..	4630	..	..
Lachta . . . . .	1889	310	39	23	4800	1400	10
Kompas . . . . .	1859	124.5	20	9	286	278	9
Krasnaya Gorka . . . . .	1861	177	26.2	10	956	360	8
Opisnoi . . . . .	1901	124.5	24	9	356	500	10
Pachtusov . . . . .	..	..	..	..	1095	..	8
Samoyed . . . . .	1895	170	32.8	12	983	1300	12
Sekstan . . . . .	1858	124.5	20	9	267	173	8
Volchov . . . . .	1875	206.7	32.8	14	1329	1790	13
Volodel I. . . . .	1910	..	..	..	730	..	..
Volodel II. . . . .	1910	..	..	..	660	..	..
Petchora . . . . .	1910	..	..	..	2000	..	..
Mesen . . . . .	1911	..	..	..	2000	..	..
Suchona . . . . .	1910	..	..	..	2000	..	..
Murman . . . . .	1912	..	..	..	500	..	..
Argun . . . . .	..	..	..	..	6500	..	..
Aleut . . . . .	1886	150	30	14	890	730	12
Kolima . . . . .	..	..	..	..	500	..	..
Kamtchadal . . . . .	1892	164	26	12	900	400	11
Mangutchai . . . . .	..	..	..	..	2500	..	..
Lyupun . . . . .	..	..	..	..	3200	..	..
Shilka . . . . .	..	..	..	..	3500	..	..
Taimyr . . . . .	..	..	..	..	1280	..	..
Tobol . . . . .	..	..	..	..	5500	..	..
Tunguz . . . . .	1870	154	26	11	706	360	9
Vaigatch . . . . .	..	..	..	..	1290	..	..
Yakut . . . . .	1892	208	27.5	13	700	367	12

NOTES.—*Petchora*, *Mesen*, and *Suchona* are colliers built as ice-breakers. *Murman* is for the White Sea; *Argun* and following ships belong to the Pacific Fleet.

**HARBOUR SHIPS, TUGS AND TENDERS.**

Asia, tons, kts. Almaz, tons, kts. Deryava, 3120 tons, 13 kts.  
 Abrek, 534 tons, 21 kts. Avantport, 100 tons, kts.  
 Brigitovka, tons, 7.5 kts. Buksir, 685 tons, kts.  
 Nevka, Karlos, Molodyets, Libava, and Vindava, all 103 tons, 10.5 kts. Dosornyi and Razvyedchik, 100 tons, 16 kts. Polesnyi, 100 tons, 10 kts. Posadnik and Voyevoda, 415 tons, 21 kts. Posilnyi, 75 tons, 9 kts. Pomoshtchik, 85 tons, 7 kts. Mogutchyi, 854 tons, 10.8 kts. Ilmen, 318 tons, 9 kts. Tosmar, 212 tons, kts. Skatuden, 250 tons, 10 kts. Slavyanka, 176 tons, 10 kts. Starsina, 82 tons, 8.5 kts. Rabotnik, 250 tons, 8 kts. Vvestovol, 85 tons, kts. Kusnetchika, 44 tons, kts. Nirok, Volodei 3. All in the Baltic.

Nachodka, and Nos. 1-3, 104 tons, 10 kts. Amur, Svir, Ochstok, Chilok, Selenga, Userdnyi. All in the Pacific.

**MOTOR VEDETTE BOATS.**

Kopye, Kinzal, Palas, Pika, Pistolet, Pulya, Rapira, Sablya, Shashka, Shtyk, 24 tons, 16 kts. On the Amur.

**HULKS.**

Bayan II., 1997 tons (School Ship). Skolelev, 2400 tons (School Ship). Kotka (School Ship).

**SAILING SHIPS.**

Moryak, 1045 tons (Training Ship). Kadet (Yacht).

**ICEBREAKERS.**

Herkules, 1911, 735 tons. Silatch, 1911, 735 tons. Ermak, 1898, 8000 tons. Udal, 1895. Ledokol, 1900. All in the Baltic.

Nadyeznyi, 1897, 1500 tons, and 3 smaller vessels in the Pacific.

## BLACK SEA FLEET



## BATTLESHIPS.

## A

## IMPERATRITSA MARIA

Nikolaiev (Russ. Sh'bg. Co.), 111.13. Ld. dn. 7.7.12

## IMPERATOR ALEKSANDR III.

Nikolaiev (Russ. Sh'bg. Co.), 1914. Ld. dn. 7.7.12

## EKATERINA II.

Nikolaiev (Nikolaiev Works), 1914. Ld. dn. 1.9.12

L., o.a. 551.2 ft. B., 90 ft. D. (mean), 27.5 ft. Disp.,  
22,500 tons.

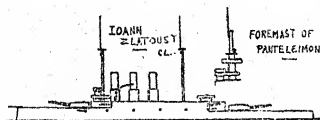
I.H.P. 26,500=21 kts. Coal cap., 1500/3000 tons.

Engines: Parsons turbines. Boilers, Yarrow.

Armour: Krupp. Belt complete, 12 in. amidships, tapering to  
4 in. at ends; turrets, 12 in.; deck, 3 in.

Armament: 12-12 in. (50 cal.) in 4 triple turrets on centre line;  
20-4.7 in. (50 cal.) on main deck; 4-9 pr.; 4-3 pr.; 4 M.  
Torpedo tubes, 4-18 in. submerged.

Compt.



C

**SVYATOI EVSTAFII** . . . . Nikolaiev, 3.11.06. Laid down, 1903  
**IOANN ZLATOUST** . . . . Sevastopol, 13.5.06. ,, 14.11.08

L., o.a. 385.7 ft. B., 74 ft. D. (max.), 27 ft. Disp., **12,840 tons**.  
 I.H.P. 10,600=16 kts. Coal cap., 670/800 tons. Oil, 580 tons.  
 Engines: 2 sets 3 expans. by Nikolaiev W'ks. Boilers, Belleville.  
 Armour: Krupp. Partial belt, 7.5 ft. wide, 9 in. to 7 in. at top and 5 in. at bottom amidships, 2 in. forward; bulkheads, 7 in.; lower deck side amidships, 6 in.; turrets and bases, 10 in.; battery and casemates, 5 in.; C.T., 9 in.; deck, sloping, 2.5 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 4-8 in. (50 cal.) in casemates; 12-6 in. (45 cal.) in battery; 14-3 in. (12 pr.); 6-3 pr.; 6 M. Torpedo tubes, 3-18 in. submerged, bow and broadside.

Compt. 879.

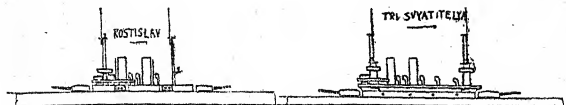
C

**PANTELEIMON** . . Nikolaiev, 9.10.00. Ld dn. 27.12.07.  
 (ex *Kynaz Potemkin Tavritcheskyi*.)

L., o.a. 378.4 ft. B., 73 ft. D. (max.), 27 ft. Disp., **12,582 tons**.  
 I.H.P. 10,600=16 kts. Coal cap., 760/870 tons. Oil, tons.  
 Engines: 2 sets 3 expans. by Nikolaiev W'ks. Boilers, Belleville.  
 Armour: Krupp. Partial belt, 7.5 ft. wide, 9 in. to 7 in. at top and 5 in. at bottom; bulkheads, 7 in.; lower deck side amidships, 6 in.; turrets and bases, 10 in.; battery and casemates, 5 in.; C.T., 9 in.; deck, sloping, 2.5 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 16-6 in. (45 cal.), 4 in casemates; 12 in. battery; 14-3 in. (12 pr.); 6-3 pr.; 2 M. Torpedo tubes, 5-18 in. submerged, bow and broadside.

Compt. 741.

**D**

**ROSTISLAV** . . . . . Nikolaiev, 2.9.96. Laid down, 1895

L., o.a. 351.8 ft. B., 68 ft. D. (max.), 24 ft. Disp., 8880 tons.

I.H.P. 8500=16 kts. Coal cap., 500/800 tons. Oil, tons.

Engines: 2 sets 3 expans. by Baltic Works. Boilers, Belleville.

Trials: I.H.P. 8700=15.6 kts.

Armour: Harvey. Partial belt, 275 ft. long, 7 ft. wide, 14.5 in. to 10 in. at top, 8 in. at bottom; B.H. forward, 9 in., aft, 8 in.; lower deck side, amidships, 5 in.; main turrets, 10 in.; secondary turrets, 5 in.; C.T., 6 in.; deck, sloping, 3 in. to 2 in.

Armament: 4-10 in. (45 cal.) in pairs in turrets f. and a.; 8-6 in. (45 cal.) in pairs in turrets; 12-3 pr.; 4-1 pr. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 641.

**C**

**TRI SVYATITELYA** . . . . . Nikolaiev, 12.11.93. Laid down, 14.8.91

L., o.a. 377.7 ft. B., 73 ft. D. (max.), 28.4 ft. Disp., 13,318 tons.

I.H.P. 10,600=17 kts. Coal cap., 750/900 tons. Oil, tons.

Engines: 2 sets 3 expans. by Humphrys, Tennant, & Co.

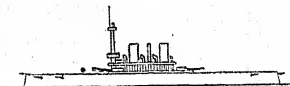
Trials: I.H.P. 11,308=16 kts. Boilers, cylindrical.

Armour: Creusot. Partial belt, 260 ft. long, 8 ft. wide, 18 in. to 16 in.; lower deck side amidships, 16 in.; B.H. forward 16 in., aft, 14 in.; turrets, 16 in.; battery, 5 in.; C.T., 12 in.; deck, flat on belt, 3 in. to 2 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.; 8-6 in. (45 cal.) in battery; 4-4.7 in.; 10-3 pr.; 3-1 pr.; 4 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 744.





## C

**GEORGII POBYEDONOSETS** . . . Sevastopol, 9.3.92. Laid down, 7.8.9  
**SINOP** . . . . . „ 1.6.87. „ 4.84

L., o.a. 339.5 ft. B., 69 ft. D. (max.), 28.4 ft. Disp.,  
*Pobyedonosets*, 11,032; *Sinop*, 11,230 tons.

I.H.P. *Pobyedonosets*, 10,600=16.5 kts.; *Sinop*, 12,000=16.5 kts.  
 Coal cap., *Pobyedonosets*, 500/855 tons; *Sinop*, 700/1050 tons.  
 Oil, tons.

Engines: 2 sets 3 expans. *Pobyedonosets* by Maudslay, cylindrical boilers; *Sinop* by Napier, Belleville boilers (1901).

Trials: *Pobyedonosets*, I.H.P. 13,468=16.5 kts.; *Sinop*, I.H.P. 12,807=17 kts.

Armour: Creusot in *Pobyedonosets*, compound in *Sinop*. Belt, 175 ft. long in *Pobyedonosets*, complete in *Sinop*, 16 in. to 8 in.; bulkheads, 10 in. forward, 9 in. aft; triangular redoubt rising to upper deck, with barbettes at corners, 12 in.; hoods to big guns, 2 in.; on 6-in. guns, in *Pobyedonosets* only, 9.5 in.; C.T., 12 in.; deck, flat on belt, 2.2 in.

Armament: 6-12 in. (35 cal. in *Pobyedonosets*; 30 cal. in *Sinop*) in pairs in barbettes, two forward and one aft at corners of redoubt; 7-6 in. (35 cal.), four in forward battery, three in after battery (unprotected in *Sinop*); with, in *Pobyedonosets*, 8-3 pr.; 2-1 pr.; in *Sinop*, 4-3 pr.

Compt. 656.

## CRUISERS.

## G

**ADMIRAL LAZAREV.** Nikolaiev (Nikolaiev Works), bdg. Ld. dn. 1.11.13

**ADMIRAL NACHIMOV.** Nikolaiev (Russ. Sh'bg. Co.), „ „ „

L., 507 ft. B., 50 ft. D. (mean), 18.4 ft. Disp., 7085 tons.

I.H.P., =30 kts.

Engines : Turbines by builders.

Armour : Krupp. Belt, 3 in. ; deck, 1 in.

Armament : 16-6 in. (50 cal.) ; 5-9 pr. Torpedo tubes, 4.



## I

**PAMYAT MERKURIA** . Nikolaiev, 2.8.03. Ld.dn. 5.9.01. (ex *Kagul*.)

**KAGUL** . . . . . Sevastopol, 4.10.02. „ 7.3.01. (ex *Otchakov*.)

L., o.a. 440.2 ft. B., 54.4 ft. D. (max.) 20.6 ft. Disp., 6675 tons.

I.H.P. 19,500=23 kts. Coal cap., 900/1100 tons.

Engines : 2 sets 3 expans. Boilers, Normand.

Armour : Krupp. Deck, 2.7 in. to 1.7 in. ; turrets, 5 in. ; casemates, 3.1 in. ; C.T., 5.5 in. ; funnel bases, 2 in.

Armament : 12-6 in. (45 cal.), four in pairs in turrets f. and a., four in casemates, four in shields ; 12-3 in. (12 pr.) ; 8-3 pr. ; 2-1 pr. ; 2 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 580.

## DESTROYERS.

Name. M*	Date.	Builder.	Length. ft.	Bearn. ft.	Draught. ft.	Disp. tns.	I.H.P.	Speed. kts.	Guns.	Tubes. tns.	Coal.	Compt.
Bezpokoinyi	'13	N	321.5	30.5	10.5	1110	25500	34	3-4 in. 2 M.	5	..	93
Derzkii	'14	N										
Gnyevnyi	'13	N										
Pronzitelnyi	'14	N										
Bystryi	'13	M										
Sylkii	'13	M										
Gromkii	'14	V	243	27.2	8.2	615	7300	25	1-4.7 in.; 5-12 pr.; 6 M.	8	200	85
Pospyeshnyi	'14	V										
Shtchastlivyi	'13	P										
M												
Kapitan Saken	'06	N	210	21	6.5	326	5700	26	1-12 pr.; 5-8 pr.	2	80	67
Kap. Leit.	'06	N										
Baranov	'06	N										
Leit. Shestakov	'06	N										
Leit. Zatsarenniy	'06	N	190	18.5	5	245	3800	26.5	1-12 pr.; 3-8 pr.	2	60	58
N												
Leit. Pushtchin	'05	N										
Zavyetnyi	'05	N										
Zvonkii	'05	N	126	14.6	5.0	96	1100	18	2-1 pr.	3	20	20
Zorkii	'05	N										
Zhivoi	'05	N										
Zhivutskii	'05	N										
Zhutkii	'05	D	153.8	16.6	6.6	164	2000	24	2-1 pr.	3	40	20
Zharkii	'05	D										
Strogi	'01	C										
Svirepyi	'01	C										
Smyetlivyi	'01	C	126	14.6	5.0	96	1100	18	2-1 pr.	2	17	20
Stremitelnyi	'01	C										

## TORPEDO BOATS.

O 4. Nos. 270-273.	'95/'06	D	137.7	14.7	4.6	120	2000	20	2-1 pr.	3	20	20
P 1. No. 263.	'86	E	126.5	15.0	6.5	88	900	18		2	17	20
O 1. No. 260.	'89	E	126.5	15.6	6.8	100	875	18		2	17	20
O 1. No. 259.	'90	E	153.8	16.6	6.6	164	2000	24		3	40	20
O 1. No. 256.	'91	C	153.4	12.8	8.0	104	1005	19		2	17	20
P 2. Nos. 252, 253.	'91/'92	O	126	14.6	5.0	96	1100	18		2	17	20

NOTES TO TORPEDO CRAFT.—Builders: N=Nikolaiev Private Yard; M=St. Petersburg Metal Works; V=Nevski Works; P=Putilov Works; D=Nikolaiev D.Y.; C=Crichton, St. Petersburg; E=Schichau, Danzig. The new destroyers will have Parsons turbine engines.

## TORPEDO CRAFT.



## SUBMARINES.

Name.	Date.	Builder.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Torpedo Tubes.	Comp.
S			ft.	ft.	tons.		kts.		
Krab	'12	N	170	..	500/700	—/—	—/—	2-13 in.	..
Kit	'14	V	..	..	—/—	—/—	—/—	..	..
Kashalot	'14	V	..	..	—/—	—/—	—/—	..	..
Narval	'13	V	..	..	—/—	—/—	—/—	..	..
Morzh	'13	B	..	..	—/—	—/—	—/—	..	..
Tyulen	'13	B	166	17.4	460/610	1200/800	15/11.5	9-13 in.	..
Nerpa	'13	B	..	..	—/—	—/—	—/—	..	..
Karp	'07	G	130	9	200/236	600/250	12/10	1-13 in.	..
Karas	'07	G	..	..	—/—	—/—	—/—	..	..
Losos	'07	H	66	11.7	110/120	—/160	9/7	2-13 in.	..
Sudak	'07	H	..	..	—/—	—/—	—/—	..	..

NOTES.—Builders: V=Nevski Works; B=Baltic Works; G=Germania, Kiel; H=Holland Co.; N=Nikolalev.

"V" boats to Holland designs; "B" boats by Bubnov.

## GUNBOATS.

R TERETS, URALETS . . . . . Sevastopol, 1837

L., o.a. 220.5 ft. B., 40 ft. D. (max.), 12 ft. Disp., 1280 tons.

I.H.P. 2000=12 kts. Coal cap., 250 tons.

Engines: 1 set compound. Boilers, Belleville (1904).

Armament: 2-6 in. (45 cal.); 1-4.7 in. (45 cal.); 2-3 in. (12 pr.); 4-3 pr.; 2-1 pr.; 1 M. Compt. 135.

(Kubanets, sister ship, and Donets, very similar, sunk 1914.)

## AUXILIARY CRUISERS.

- T Nine ships of the Black Sea Steam Navigation Co.  
Two, *Velikii Knyaz Aleksis* and *Velikii Knyaz Konstantin*,  
of 16 kts. speed; the others, 14 kts.

## MINE-LAYER.

- X DUNAI . . . . . Motala, 1891.  
L., 205.5 ft. B., 34 ft. D. (max.), 16.2 ft. Disp., 1381 tons.  
I.H.P. 1509=12 kts.  
Armament: 6-3 pr.; 4-1 pr. Compt. 233.

## YACHT.

- X ALMAZ . . . . . Baltic Works, 2.6.03. Laid down, 6.5.02  
L., o.a. 363 ft. B., 43.5 ft. D. (max.), 17.5 ft. Disp., 3235  
tons.  
I.H.P. 7500=19 kts. Coal cap., 560 tons.  
Engines: 2 sets 3 expans. Boilers, Belleville.  
Armour: Deck, 2.7 in.  
Armament: 4-3 in. (12 pr.); 4-3 pr.; 2 M. Compt. 294.

## REPAIR SHIP.

- X KRONSTADT . . . . . Hamburg, 1894. (ex *Phaenicia*.)  
L., 461.2 ft. B., 52.3 ft. D., ft. Disp., 16,400 tons.  
Speed, 13 kts.

## TRANSPORTS.

- X Berezan, 5096 tons (Training Ship). Dnyestr, 4217 tons.  
Dnyepri, 3460 tons. Kazbek, 692 tons (4-1 pr.). Tendra,  
426 tons. Ingul, 745 tons. Penderaklia, 1100 tons (Depôt  
for Submarines). Vyecha, 473 tons (12 kts.).

## MISCELLANEOUS.

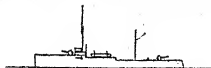
- X Kazarskii, 400 tons, 16 kts.; 6-3 pr.; two torpedo tubes  
(ex Torpedo gunboat). Kolchida, 535 tons, 11 kts.; 2-1 pr.  
(Yacht).

## HARBOUR SHIPS, ETC.

## X Z

- Udalets, Hidrograf, Spask, Prigodnyi, Poti, Batum, Sulin,  
Klokatchev, Proida, Bailov, Bulava.

## FLOTILLA ON THE CASPIAN SEA



## GUNBOATS.

R

ARDACAN . . . . . Baltic Works, 1909

KARS. . . . . „ 4.9.09

L., 203.2 ft. B., 28 ft. D. (max.), 8 ft. Disp., 623 tons.

I.H.P. 1000=14 kts. Diesel engines. 2 screws.

Armament: 2-4.7 in. (45 cal.); 4-3 in. (12 pr.); 4 M.

Compt. 190.

(These vessels went to their station by the canals.)

R ASTRABAD . . . . . 1900

L., 125 ft. B., 22 ft. D. (max.), 7.5 ft. Disp., 326 tons.

I.H.P. 500=12 kts. Armament: 5-3 pr.

R GEOK TEPE . . . . . 1883

L., 229 ft. B., 36 ft. D., 8.5 ft. Disp., 1010 tons.

I.H.P. 200=11 kts.

Armament: 4-4 pr.; 5-3 pr.; 4 M.

## TRANSPORT.

X

ARAKS . 1900. 744 tons. I.H.P. 800=12.5 kts. Armament: 4-3 pr.

## SURVEYING SHIP.

X

KRASNOVODSK . . . . . 215 tons. Paddle steamer. 11 kts.

## SAN DOMINGO



## GUNBOATS.

**R INDEPENDENCIA** . . . . . Glasgow, 3.9.94  
 L., 170 ft. B., 25 ft. D., . . . ft. Disp., 322 tons. Speed,  
 15 kts. Armament: 7 small guns.

**R PRESIDENTE** . . . . . Reconstructed, 1896  
 L., 205 ft. Speed, 13.7 kts.  
 Armament: 4—4.7 in. (old); 4 small.

**V 4 boats** . . . . . 1907. Petrol engines.  
 L., 183.6 ft. B., 9.8 ft. D., 3.2 ft. Speed, 12.5 kts.  
 Armament: 1—1 pr.; 1 M.

## SARAWAK

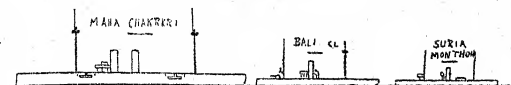
**X ADEH** . . . . . Port-Glasgow, 1884. Paddle steamer  
 L., 149.7 ft. B., 25.2 ft. Gross tonnage, 300 tons.  
 Armament: 1 small gun.

**X LORNA DOONE** . . . . . Port-Glasgow, 1881. Screw steamer  
 L., 142.5 ft. B., 21.2 ft. Gross tonnage, 175.  
 Armament: 2 small guns.

**X ALINE** . . . . . Port-Glasgow, 1875. Screw steamer  
 L., 103.3 ft. B., 17.2 ft. Gross tonnage, 118.  
 Armament: 2 small guns.

**X ZAHORA** . . . . . Yacht

## SIAM



## CRUISER.

**J MAHA CHAKRRI** . . . Leith, 27.6.92

L., 300 ft. B., 39.3 ft. D. (mean), 14 ft. Disp., 3000 tons.

I.H.P. 3000=15 kts. Coal cap., 280 tons.

Armour: Deck, 2 in.

Armament: 4-4.7 in.; 10-6 pr.; 6 M. Compt. 318.

(Used as Royal Yacht.)

## GUNBOATS.

**R BALI** . . Hong-Kong, 1901 **SURIS** . . Hong-Kong, 1901

L., 161 ft. B., 23 ft. D., 9 ft. Disp., 580 tons.

I.H.P. 500=12 kts.

Armament: 1-4.7 in.; 5-6 pr.; 4-1 pr.

**R MURATHA** . . . Hong-Kong, 1898

L., 148 ft. B., 23 ft. D., 9 ft. Disp., 500 tons.

I.H.P. 500=12 kts.

Armament: 1-4.7 in.; 4-6 pr.; 5 M.

**R**

**MAHUT RAJAKUMAR** . Whampoa, 2.87. Bought, 1891. (ex *Filipinas*.)

L., 175 ft. B., 22 ft. D. (mean), 11 ft. Disp., 560 tons.

I.H.P. 680=12 kts. Coal cap., 90 tons.

Armament: 2-4.7 in. (old); 4-6 pr.; 2-1 pr.; 2 M. 1

Torpedo tube.

**V SURIA MONTHON** . . . Southampton, 1908

L., 130 ft. B., 18 ft. D., 6 ft.

I.H.P. 700=14.5 kts. Boiler, Thornycroft.

Armament: 1-6 pr.

## TORPEDO CRAFT.

**N SUA-TAYARN-SHOL and 2 others** . . . Kobe, 1909

380 tons. 27 kts.; 6-12 pr. 2 tubes.

**O Nos. 1, 2, 3** . . . . . Kobe, 1908

120 tons. 22 kts.; 4-6 pr.; 1 M. 2 tubes.



## GUNBOATS.

Name. R	Date.	Material.	Length. ft.	Beam. ft.	Draught. ft.	I.H.P.	Speed. kts.	Disp. tns.	Armament.
Thewa . . .	'99	W	85½	16	8½	200	10½	175	1-6 pr.; 2 mach.
Yang Yot . . .	'95	C	144½	21½	11½	255	10	450	1-40 pr. M.; 4-6 pr. Q.
Maha Phichaia- thep	'67	W	151	25	11½	345	10	580	1-70 pr. M.; 4-12 pr.; 1-6 pr.
Ran Ruk . . .	'79	I	126	26	11½	540	11	700	4-47 in.; 1-6 pr.; 5 M.; 3 t.
Han Hak Sakru.	'75	C	88½	25½	6½	140	7	260	1-10 in. B.; 4-20 pr.
Siam Moukut (Floating battery)	'70	..	..	..	..	..	..	950	8-32 pr.; 2 small guns
Regent . . .	'68	..	..	..	..	..	..	660	8 guns

## DESPATCH VESSELS, YACHTS, ETC.

Name. X	Date.	Material.	Length. ft.	Beam. ft.	Draught. ft.	I.H.P.	Speed. kts.	Disp. tns.	Description.
Thoon Kramoon .	'64	W	157½	28	24	..	..	800	Barque-rigged sailing train- ing ship
Uthai . . .	'90	W	85	14	8½	99	8	134	Despatch boat
Koh Si Chang .	'90	W	75	13½	7	80	8	100	Despatch boat
Apollo . . .	'79	W	187	24	10	480	10	650	Paddle yacht
Rising Sun . .	'70	W	164	18½	7	190	8	300	Paddle yacht
Akaret . . .	'75	C	180	22	8	400	10	450	Paddle yacht
Maida . . .	'73	I	138	19	10	300	11	370	Despatch boat
Nirben . . .	'77	W	135	17	9½	180	9	290	Despatch boat
Fylla . . .	'91	W	105	18	9	165	8	245	Troopship
Prap-Parapaks .	'99	C	89	15	8½	250	11	210	Despatch boat
Thalang . . .	'08	..	138	22	10	..	..	303	Yacht

Besides 12 small Despatch Boats and 60 Launches, from 1 to 50 tons, for sea and river use.

## SPAIN

## BATTLESHIPS.

A\*

REINA VITTORIA . . . . . pro.

[illegible]

Disp., 21,000 tons.

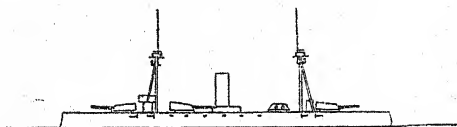
Speed, 23 kts.

Engines :

**Armour :**

Armament: 8-14 in. (45 cal.), etc.

Compt.

**A**

<b>ESPAÑA</b>	. . . . .	Ferrol, 5.2.12.	Laid down, 5.12.09
<b>ALFONSO XIII.</b>	. . . . .	„ 7.5.13.	„ „ 23.2.10
<b>JAIME I.</b>	. . . . .	„ 1914.	„ 5.2.12

L., w.l. 435 ft. ; o.a. 439.5 ft. B., 78.7 ft. D. (mean), 25.5 ft.  
Disp., 15,460 tons.

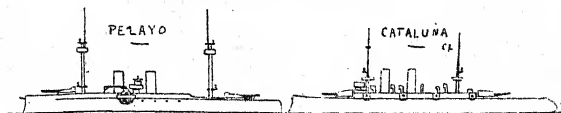
I.H.P. 15,500=19.5 kts. Coal cap., 900/1900 tons.

Engines : 4 sets Parsons turbines. Boilers, Yarrow.

Armour: Krupp. Complete belt, 6.6 ft. wide ; 9 in. amidships, tapering to 4 in. at ends ; lower deck side, 6 in. amidships, tapering to 3 in. forward ; turrets, 8 in. ; barbettes, 10 in. ; battery, 3 in. ; forward C.T., 10 in. ; after C.T., 6 in. ; deck, sloping, 1.5 in. ; upper deck over battery, 1.5 in. ; longitudinal bulkheads below water, 1.5 in.

Armament: 8-12 in. (50 cal.) in pairs in turrets f. and a. and diagonally amidships ; 20-4 in. (50 cal.) in battery on main deck ; 2-3 pr. ; 4 M. Torpedo tubes, 3-18 in. submerged, broadside and stern.

Compt. 700.

**D**

**PELAYO** . . . . . La Seyne, 5.2.87. Reconstructed, 1897 and 1899  
 L., 330 ft. B., 66 ft. D. (mean), 25 ft.; (max.), 28.5 ft. Disp.,  
 9740 tons.

I.H.P. 9000=16 kts. Coal cap., 680 tons.

Engines: 2 sets 3 expans. Boilers (1897), Niclausse.

Armour: Steel. Complete belt, 16.5 in. amidships; 11.9 in. at  
 ends; barbettes, 15.9 in.; hoods, 2 in.; battery, 3 in.  
 (Harvey); deck, flat on belt, 3.5 in.

Armament: 2-12.6 in. (35 cal.) in barbettes f. and a.; 2-11 in.  
 (35 cal.) in barbettes on either beam; 9-5.5 in. (45 cal.),  
 one in bows and eight in battery; 12-6 pr.; 9-1 pr. and  
 M. Torpedo tubes, 7 above water.

Compt. 620.

**ARMOURED CRUISERS.****F****PRINCESA DE ASTURIAS**

Caracca, 17.10.96. Ld. dn. 1890. Completed, 1902

**CATALUÑA** . . Cartagena, 24.9.00. " " " 1908

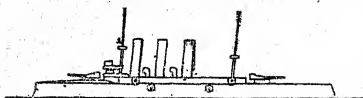
L., p.p. 347.9 ft.; o.a. 364.1 ft. B., 61 ft. D. (mean), 21.7 ft.;  
 (max.), 25 ft. Disp., 6888 tons.

I.H.P. 14,800=20 kts. Coal cap., 935/1180 tons.

Engines: At Barcelona, Maudslay design, 2 sets horizontal 3  
 expans. Boilers, cylindrical.

Armour: Harvey. Belt, 278 ft. long; 5.5 ft. wide, 11.9 in.  
 amidships; 7.9 in. and 5.9 in. at forward end; 7.9 in. at  
 after end; bulkheads, 11.9 in.; barbettes, 7.9 in.; turrets,  
 3.9 in.; casemates (chrome steel), 2.7 in.; C.T., 7.9 in.;  
 deck, flat on belt, curved at ends, 2.2 in.

Armament: 2-9.4 in. (40 cal.) f. and a.; 8-5.5 in. (35 cal.) in  
 casemates; 8-6 pr.; 10-1 pr. Torpedo tubes, 5 sub-  
 merged (?). Compt. 542.

**PROTECTED CRUISERS.****H**

**EMPERADOR CARLOS V.** . . . . Cadiz, 12.3.95. Laid down, 1892  
L., p.p. 380 ft.; o.a. 403 ft. B., 67 ft. D. (mean), 25 ft.; (max.),  
28 ft. Disp., 9900 tons.

I.H.P. 18,250=20 kts. Coal cap., 1180/2006 tons.

Engines: At Barcelona, Maudslay design, 2 sets 3 expans.  
Boilers, cylindrical.

Armour: Creusot. Deck, 2.2 in.; engine coamings, 6.1 in.;  
barbettes, 9.8 in.; turrets, 3.9 in.; hoists, 7.9 in.; battery,  
2 in.; C.T., 11.9 in.

Armament: 2-11 in. (35 cal.) f. and a.; 2-5.5 in. (35 cal.) in  
battery on main and upper decks; 4-4.1 in. (35 cal.);  
10-6 pr.; 8-1 pr.; 2 M. Torpedo tubes, 2 submerged,  
4 above water. Compt. 590.

**I**

**REINA REGENTE** . . Ferrol, 21.9.06. Ld. dn. 1899. Completed, 1908

L., 337.9 ft. B., 52.5 ft. D., 19.7 ft. Disp., 5800 tons.

I.H.P. 10,850=19 kts. Coal cap., 1180 tons. Boilers, Belleville.

Armour: deck, 3.2 in.; C.T., 3.2 in.

Armament: 10-5.9 in.; 12-6 pr.; 8-1 pr. Torpedo tubes, 3.  
Compt. 497.

(Training Ship for Cadets.)

**J**

**LEPANTO** . . . . . Cartagena, 1892

L., 318.5 ft. B., 50.5 ft. D. (mean), 20 ft. Disp., 4820 tons.

I.H.P. 10,850=20 kts. Coal cap., 1560 tons.

Armour: Deck, 4.3 in. to 3 in.

Armament: 4-6.4 in. (35 cal.); 6-4.7 in.; 6-6 pr.; 6-1 pr.;  
2 M. Torpedo tubes, 2 above water. Compt. 420.

I 2 ships . . . . . projected  
 Disp., 3000 tons. Speed, 28 kts.



J **EXTREMADURA** . . . . . Cadiz, 30.4.00  
 L., 289 ft. B., 36 ft. D., 14 ft. Disp., 2100 tons.  
 I.H.P. 6905=19 kts. Coal cap., 210 tons.  
 Armour: Deck, 1·2 in.; C.T., 2·2 in.  
 Armament: 8-4 in.; 4-6 pr.; 4-1 pr.; 2 M. Compt. 260.

J **RIO DE LA PLATA**. Havre, 17.9.98. Sheathed and coppered  
 L., 246 ft. B., 35.4 ft. D. (mean), 14.3 ft. Disp., 1920 tons.  
 I.H.P. 7000=20 kts. Coal cap., 270 tons. Boilers, Normand.  
 Armour: Deck, 1·2 in.  
 Armament: 2-5·5 in. (35 cal.) f. and a.; 4-4 in. (35 cal.) in  
 sponsons; 4-6 pr.; 2-1 pr.; 2 M. Compt. 213.



## GUNBOATS.

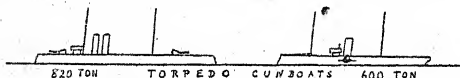
R **INFANTA ISABEL** . . . . . Cadiz, 1885.  
 L., 210 ft. B., 32 ft. D. (mean), 2.5 ft. Disp., 1137 tons.  
 I.H.P. 1480=14 kts. Coal cap., 200 tons.  
 Armament: 4-4·7 in. (old); 3-2 pr.; 2-1 pr.; 6 M.  
 Compt. 194.

R **BONIFAZ** . . . . . Cartagena, 1912  
**LAURIA** . . . . . " "  
**LAYA** . . . . . " 1911  
**RECALDE** . . . . . " "

L., 200 ft. B., 30 ft. D. (mean), 9 ft. Disp., 800 tons.  
 I.H.P. 1100=13 kts. Coal cap., 150 tons. Boilers, Yarrow.  
 Armament: 4-3 in. (12 pr.); 2 M.  
 Compt.

## GUNBOATS.

Name.	Date.	Length.	Beam.	Dranght.	Disp.	I.H.P.	Speed.	Armament.	Coal.	Compt.
<b>RV</b>										
Hernan Cortes . . .	'95	ft. 136	ft. 26	ft. 11	tns. 295	440	12	2-6 pr.; 2 M.	tns. 63	54
Vasco Nunez de Balbao . . .	'95	136	26	11	295	440	12	2-6 pr.; 2 M.	63	54
Ponce de Leon . . .	'95	135	19	6.5	195	295	10	2-5 pr.; 2 M.	35	43
Perla . . .	'93	75.5	13.2	3.7	42	100	9	1 M.	5	26
Cartagenera . . .	'03	56	12.5	4	27	150	11	1 M.	..	12
Macmahon . . .	'87	90.5	13.5	4.5	115	150	9	2-5 pr.; 1 M.	10	32



## TORPEDO GUNBOATS.

- L **DOÑA MARIA DE MOLINA** . . . . . Ferrol, 9.10.96  
**MARQUES DE LA VICTORIA** . . . . . " 4.2.97  
**DON ALVARO DE BAZAN** . . . . . " 14.9.97

L., 235 ft. B., 26.1 ft. D. (max.), 10 ft. Disp., 820 tons.

I.H.P. 3500=19.5 kts. Coal cap., 120/190 tons.

Engines: Maudslay design built at Barcelona. Boilers, locomotive. Present speed about 16 kts.

Armament: 2-4.7 in.; 4-3 pr.; 2 M. 1 torpedo tube submerged in bow; 2 above water. Compt. 89.

- L **NUEVA ESPAÑA** . . . . . Carraca, 11.89  
**MARTIN ALONZO PINZON** . . . . . La Graña, 1889  
**MARQUES DE MOLINS** . . . . . " 1891  
**TEMERARIO** . . . . . " 1889

L., 190.2 ft. B., 22.8 ft. D. (max.), 10.3 ft. Disp., 600 tons.

I.H.P. 2600=19 kts. Coal cap., 106/130 tons. Boilers, cylindrical.

Armament: 2-4.7 in. in sponsons; 4-6 pr.; 1 M. 2 torpedo tubes above water. Compt. 91,

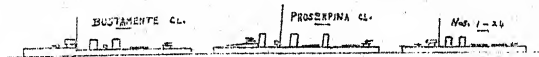
## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compl.
			ft.	ft.	ft.	tns.		kts.			tns.	
<b>M*</b>												
6 boats . . .	pro.	..	..	..	..	..	..	..	..	..	1200	..
<b>N</b>												
Bustamente . . .	'12	C										
Cadarso . . .	'12	C	220	22	5.5	370	6250	28	5-6 pr.	2	80	70
Villamil . . .	'12	C										
Proserpina . . .	'07	B										
Audaz . . .	'07	B	225	22.5	5.7	400	7500	30	2-14 pr.; 2-6 pr.;	2	109	70
Osado . . .	'07	B							2-1 pr.			
Terror . . .	'06	B	220	22	5.5	370	6000	28		2	100	67

## TORPEDO BOATS.

<b>O</b>												
24. Nos. 1-24 . . .	11/13	C	165	16.5	5.2	180	3750	26	3-3 pr.	3	23	31
1. No. 41 . . .	'87	Y	134.5	14	6	127	1000	24	2-3 pr.	2	25	23
<b>P</b>												
1. No. 42 . . .	'85	K	125	15.5	3.5	85	1000	21	2-1 pr.	2	16	18
2. Nos. 43 and 44 . . .	'85	T	117.7	12.5	6.2	68	660	20	2 M.	2	18	20
1. No. 45 . . .	'80	T	127.5	12.5	6	59	730	20	1 M.	2	16	20

NOTES.—Builders: C=Cartagena D.V.; B=Clydebank; Y=Yarrow; K=Krupp; T=Thornycroft. The new destroyers and torpedo boats have Parsons turbine engines. They carry 18 in. tubes—all the others have 14 in. All the destroyers and the new torpedo boats have Normand boilers. The older torpedo boats have locomotive or Yarrow (1907).



## SUBMARINES.

8 boats of 400 tons projected,



VESSELS OF THE COMPANIA TRANSATLANTICA OF CADIZ  
AVAILABLE FOR ARMING AS CRUISERS.

T	Vessels.	Built.	Length.	Beam.	Gross tons.	Speed.
			ft. in.	ft. in.		kts.
	Joaquin de Pelayo . . . .	'82	205	26	840	13
	Reina Maria Cristina . . .	'88	400	48	4881	16
	Monte Video * . . . .	'89	410.5	48.2	5096	14.5
	Buenos Aires. . . . .	'87	410.6	48.2	5195	14
	Cataluña . . . . .	'83	384.2	42.2	3488	14
	Leon XIII.* . . . .	'90	410.4	46.1	4687	15
	P. de Satrustegui . . . .	'90	410	46.1	4638	15
	Ciudad de Cadiz . . . .	'78	363.6	38.2	3084	13.5
	Isla de Panay . . . . .	'82	362.4	43.2	3636	13.5
	Isla de Luzon . . . . .	'82	381.9	44.2	4252	13
	Alfonso XII. . . . .	'90	462	52.4	6875	19
	Ancilante . . . . .	'89	370	45.9	4032	13
	Antonio Lopez . . . . .	'91	429	49	5957	14
	Manuel Galvo . . . . .	'92	420	45.9	5617	14
	Montserrat . . . . .	'89	370	42.6	4147	14
	C. Lopez y Lopez . . . .	'91	392	42.6	4046	13
	Reina Victoria Eugenia . .	'12	480	61	..	17
	Infanta Isabel de Bourbon .	'12	480	61	..	17

Those marked \* were armed in 1895-96 with 5.5 in. Hontoria B. guns. During the American war some of these were used as auxiliary cruisers some as transports, and one, *Isla de Luzon*, as a collier.

## TRAINING SHIPS.

**U NUMANCIA** . . . . La Seyne, 1863. Reconstructed, 1897  
 7035 tons. 9 kts. Complete belt, 5 in. to 4 in. iron.  
 Armament: 4-8 in. ; 3-6.4 in. ; 10-5.5 in., etc.  
 Compt. 600. (Gunnery School Ship.)

**U VITORIA** . . . . Blackwall, 1865. Reconstructed, 1897  
 7000 tons. 11 kts. Complete belt, 5.5 in. to 3 in. iron.  
 Armament: 4-8 in. ; 4-6.4 in. ; 10-5.9 in. etc.  
 Compt. 561. (Training Ship for Seamen.)

**X**  
**ASTURIAS** . . . . Wooden screw steamer, 1576 tons. (Training Ship  
 for Cadets.)  
**NAUTILUS** . . . . Composite sailing ship, 800 tons. (Training Ship  
 for Cadets.)  
**VILLE DE BILBAO** . Wooden sailing ship, 1189 tons. (Training Ship  
 for Boys.)

**X**  
**GIRALDA** . . . . Govan, 1894. Bought, 1898. 1 funnel, 3 masts  
 L., 275 ft. B., 35 ft. D., 19 ft. Disp., 1664 tons.  
 I.H.P. 6500=16 kts. Coal cap., 400 tons. Boilers, cylindrical.  
 Armament: 5-6 pr. (Royal Yacht.)

**X**  
**URANIA** . . . . 1895. 669 tons. 9 kts. Armament: 2-6 pr.  
 (Surveying Ship.)

**X**  
**ALMIRANTE LOBO** . Kinghorn, 6.4.09. L., 255 ft. B., 38 ft. D., 22 ft.  
 12 kts. Armament: 2 M. Compt. 100. (Transport.)

**X** **GENERAL VALDES** . Paddle steamer, 2 funnels. 1503 tons.

**X** **DORADO, DELFIN, CAVIOTA** . . . . Cartagena, 1910  
 158 tons. I.H.P. 235=11 kts.  
 (For Fishery Protection.)

## HULKS.

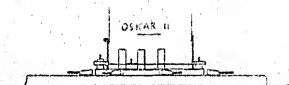
**Z**  
**LEPANTO**, 4800 tons. **DESTRUCTOR**, 386 tons. **VINCENTE YANEZ**  
**PINZON** 610 tons. **MARQUES DE LA ENSANADA**, 1000 tons.

## SWEDEN

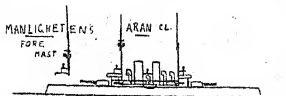


## BATTLESHIPS.

**C SVERIGE** . . . Gothenburg, bdg. Laid down, 15.2.13  
 L., 391 ft. B., 62.5 ft. D. (mean), 20.7 ft.; (max.), 21.7 ft.  
 Disp., 6690 tons.  
 I.H.P. 17,500=22.5 kts. Coal cap., 450/800 tons.  
 Engines: Turbines by Bergsund Co. Boilers, Yarrow.  
 Armour: Krupp. Complete belt, 7.9 in. amidships; 2.4 at  
 ends; lr. dk., side, amidships, 3.9 in.; main turrets, 7.9 in.  
 to 3.9 in.; barbettes, 7.9 in.; secondary turrets, 5.9 in. to  
 3.9 in.  
 Armament: 4-11 in. (45 cal.) in pairs in turrets f. and a.;  
 8-5.9 in. (50 cal.), two in a turret firing over forward 11-in.  
 turret, six in single turrets on beam; 6-3 in. (12 pr.).  
 Torpedo tubes, 2-21 in. submerged, broadside.  
 Compt. 445.



**D OSKAR II.** . . . Lindholmen, 1906. Laid down, 1903  
 L., 313.7 ft. B., 50.5 ft. D. (mean), 16.7 ft.; (max.), 18 ft.  
 Disp., 4202 tons.  
 I.H.P. 8880=18 kts. Coal cap., 345/492 tons.  
 Trials: I.H.P. 9272=18.9 kts. Boilers, Yarrow.  
 Armour: Partial belt, 5.9 in. to 3.9 in.; B.H., 5.9 in.; lr. dk.  
 side, amidships, 3.9 in.; main turrets, 7.5 in. to 5.1 in.;  
 barbettes, 6.8 in.; secondary turrets, 4.9 in. to 2.4 in.; C.T., 6.8  
 in.; deck, sloping, 1.9 in. to 1.4 in.  
 Armament: 2-8.2 in. (45 cal.) in turrets f. and a.; 8-5.9 in.  
 (50 cal.) in pairs in turrets; 10-6 pr.; 3-1 pr. Torpedo  
 tubes, 2-18 in. submerged.  
 Compt. 326.



D

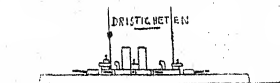
**ÄRAN** . . . Lindholmen, 1902 **VASA** . . . Finnboða, 12.01  
**TAPPERHETEN** Malmö, 1902 **MANLIGHETEN** Malmö, 1.12.03  
 L., 287 ft. B., 49.2 ft. D., 16.4 ft. Disp., 3612 tons.  
 I.H.P. 5920=16.5 kts. Coal cap., 320/365 tons. Boilers,  
 Yarrow.

Trials: *Äran*, I.H.P. 6400=17.2 kts.; *Vasa*, I.H.P. 6500=17.2  
 kts.; *Tapperheten*, I.H.P. 7380= kts.; *Manligheten*,  
 I.H.P. 7285=17.1 kts.

Armour: Krupp. Partial belt, 6.8 in. to 3.9 in.; bulkheads,  
 6.8 in.; main turrets, 7.5 in. to 5.1 in.; barbettes, 7.5 in.;  
 secondary turrets, 4.9 in. to 2.4 in.; barbettes, 3.9 in.;  
 C.T., 6.8 in.; deck, flat on belt, sloping at ends, 1.9 in.

Armament: 2-8.2 in. (45 cal.) in turrets f. and a.; 6-5.9 in.  
 (45 cal.) in single turrets on beam; 10-6 pr.; 2-1 pr.;  
 2 M. Torpedo tubes, 2-18 in. submerged.

Compt. 300.



D

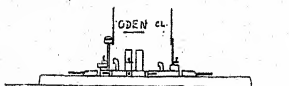
**DRISTIGHETEN** . . . Lindholmen, 5.00. Laid down, 1898  
 L., 285 ft. B., 48.6 ft. D. (max.), 16 ft. Disp., 3434 tons.  
 I.H.P. 5325=16.5 kts. Coal cap., 250/310 tons.

Trial: I.H.P. 5490=16.8 kts. Boilers, Yarrow.

Armour: Krupp. Partial belt, 7.9 in. to 3.9 in.; main turrets,  
 7.9 in. to 5.5 in.; barbettes, 7.9 in.; battery, 3.9 in.;  
 hoists, 3.9 in.; C.T., 7.9 in.; deck, flat on belt, sloping at  
 ends, 1.9 in.

Armament: 2-8.2 in. (45 cal.) in turrets f. and a.; 6-5.9 in.  
 (45 cal.) in battery; 10-6 pr.; 2-1 pr.; 2 M. Torpedo  
 tubes, 2-18 in. submerged.

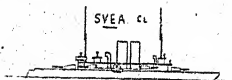
Compt. 290.



D			
<b>ODEN</b>	Finnboda,	9.3.96.	Laid down, 1894
<b>THOR</b>	"	1898.	" 1896
<b>NJORD</b>	Lindholmen,	1898.	" 1896

L., 278.8 ft. B., 48.7 ft. D. (max.), 17 ft. Disp., 3434 tons.  
I.H.P. 5280=16.5 kts. Coal cap., 280/400 tons. Boilers, cylindrical.

Armour: Steel. Partial belt, 9.5 in. to 3.9 in.; main turrets and barbettes—*Oden*, 9.8 in., others, 7.9 in.; battery, 3.9 in.; C.T., 7.9 in.; deck, flat on belt, sloping at ends, 1.9 in.  
Armament: 2—9.8 in. (42 cal.) in turrets f. and a.; 6—4.7 in. (45 cal.) in battery; 10—6 pr.; 2—1 pr.; 2 M. Torpedo tube, 1—18 in. submerged in bow. Compt. 270.



D			
<b>SVEA</b>	Lindholmen,	1886.	Reconstructed, 1904
<b>GÖTA</b>	"	30.9.89.	" 1902
<b>THULE</b>	Finnboda,	21.1.98.	" 1903

L., 249.3 ft. B., 49.3 ft. D. (mean), 15.7 ft. Disp., 3050 tons, *Svea*; L., 254.9 ft. B., 50.2 ft. D. (mean), 16.1 ft. Disp., 3235 tons, *Göta*; L., 260.5 ft. B., 47.9 ft. D. (mean), 16.1 ft. Disp., 3335 tons, *Thule*.

I.H.P. *Svea*, 3590=15 kts.; others, 4685=16 kts. Coal cap., 200/260 tons. Boilers, cylindrical, *Svea*'s new in 1897.

Trials: *Svea*, 15.9 kts.; *Göta*, 16.3 kts.; *Thule*, 16.9 kts.

Armour: Creusot. Partial belt, 5 ft. wide; 11.5 in. to 7.8 in.; bulkheads, forward, 11.9 in. to 11 in., aft, 11 in. to 7.8 in.; C.T., 10.5 in.; deck, flat on belt, sloping at ends, 1.9 in. Krupp (new); main turret, 7.5 in. to 5.5 in.; barbettes, 7.5 in.; secondary turrets, 4.6 in. to 1.9 in.; barbettes, 3.9 in.

Armament: 1—8.2 in. (45 cal.) in turret forward; 7—5.9 in. (45 cal.) in single turrets, one aft, six on beam; 11—6 pr.; 2—1 pr. Torpedo tubes, 1—15 in. submerged in bow, 2 above water. Compt. 260.



## MONITORS.

## U

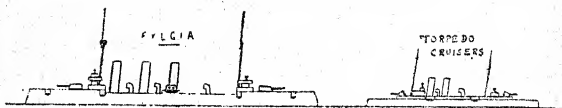
**TIRFING** . . . . . Norrköping, 1867. Reconstructed, 1903. Iron-built  
**THORDON** . . . . . " 1866. " 1904. "  
**JOHN ERICSSON** . . . . . " 1865. " 1898. "  
 L., 200.2 ft. B., 45.3 ft. D., 11.2 ft. Disp., 1475 tons.  
 I.H.P. 375=6.5 kts. Coal cap., 112/150 tons. 1 screw.  
 Armour: Iron. Complete belt, 4.7 in.; deck, 1.5 in.; turret, 10.3 in.; C.T., 9.6 in.  
 Armament: *John Ericsson*, 2-5.9 in. (38 cal.) in shield on top of turret; 2-6 pr.; 2 M. Others, 2-4.7 in. (44 cal.) in turret; 8-6 pr.; 2 M. Compt. 80.

## U

**BERSERK** . . . . . Norrköping, 1874. Reconstructed, 1898. Iron-built  
**BJÖRN** . . . . . " 1876. " 1905. "  
**FOLKE** . . . . . " 1875. " 1906. "  
**GERDA** . . . . . Stockholm, 1873. " 1905. "  
**HILDUR** . . . . . " 1872. " 1905. "  
**SÖLVE** . . . . . Norrköping, 1875. " 1897. "  
**ULF** . . . . . " 1873. " 1898. "  
 L., 130.6 ft. B., 26.4 ft. D. (mean), 8.3 ft. Disp., 453 tons.  
 I.H.P. 155=7 kts. Coal cap., 15/25 tons. 2 screws.  
 Armour: Complete belt, 3 in. to 2 in. (*Björn* and *Ulf*, 3.7 in. to 2.5 in.); turret, 16.5 in.; deck, .7 in.  
 Armament: 1-4.7 in. in turret; 2-6 pr. Compt. 45.

## U

**LOKE** . . . . . Norrköping, 1871. Iron-built  
 L., 205.3 ft. B., 45.3 ft. D. (mean), 11.5 ft. Disp., 1555 tons.  
 I.H.P. 425=8 kts. Coal cap., 134 tons. 1 screw.  
 Armour: Complete belt, 4.7 in.; deck, 1 in.; turret, 17.5 in. to 14.7 in.; C.T., 9.6 in.  
 Armament: 2-9.4 in. (old); 2 M. Compt. 80.  
 (This ship may be reconstructed as *John Ericsson*.)

**ARMOURD CRUISER.****G****FYLGIA** . . . . . Finnroda, 26.12.05. Laid down, 1903L., 377.3 ft. B., 48.6 ft. D. (mean), 16 ft. ; (max.), 19.3 ft.  
Disp., 4035 tons.

I.H.P. 11,840=21.5 kts. Coal cap., 345/886 tons.

Trials: I.H.P. 12,172=22.8 kts. Boilers, Yarrow.

Armour: Krupp. Partial belt, 3.9 in. ; turrets, 4.9 in. to 2 in. ;  
barbettes and hoists, 3.9 in. ; C.T., 4.9 in. ; deck, sloping,  
1.5 in. ; behind belt, 2 in. at ends.Armament: 8-5.9 in. (45 cal.) in pairs in turrets ; 14-6 pr. ;  
3-1 pr. Torpedo tubes, 2-18 in. submerged.

Compt. 328.

(Used as Cadet Training Ship.)

**TORPEDO CRUISERS.****L****ÖRNEN** . . Lindholmen, 1896    **JACOB BAGGE** . . Kockum, 1898  
**GLAS HORN** . . Stockholm, 1898

L., 223 ft. B., 26.9 ft. D., 10.1 ft. Disp., 787 tons.

I.H.P. 3950=19 kts. Coal cap., 100 tons. Boilers, Örnén,  
cylindrical ; others, Yarrow. *Clas Horn* did 20 kts. on trial.

Armour: Deck, .75 in. C.T., 1.6 in.

Armament: 2-4.7 in. (45 cal.) ; 4-6 pr. ; 1-14 in. torpedo  
tube, submerged in bow.

Compt. 100.

**L****PSILÄNDER** . Stockholm, 1899    **GLAS UGGLA** . Stockholm, 1899

L., 232 ft. B., 27.2 ft. D., 9.7 ft. Disp., 787 tons.

I.H.P. 4440=20 kts. Coal cap., 120 tons. Boilers, Yarrow.

*Psilander* did 20.7 kts. on trial.

Otherwise same as Örnén class.

## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
N			ft.	ft.	ft.	tns.		kts.			tns.	
1 boat	pro.											
Munin . . .	'11	K	217.5	21	8.2	420	7890	30	4-12 pr.	2	85	69
Hugin . . .	'10	G	216.8	20.7	8.2	420	7890	30				
Vidar . . .	'09	K	216.5	20.7	8.2	420	7890	30.4				
Ragnar . . .	'08	K						30.2				
Sigurd . . .	'08	L						30.6				
Wale . . .	'07	K	215.9	20.7	8.5	430	7890	31.2	2-12 pr.;	2	85	69
Magne . . .	'05	T	215.9	20.7	8.5	430	7700	30.7	4-6 pr.			
Mode . . .	'02	Y	220.2	20.5	8.9	400	6800	32.1	6-6 pr.	2	85	67

## TORPEDO BOATS.

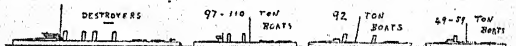
O												
Vega . . .	'10	C	128	14.4	8.5	110	1975	25	2-6 pr.	2	11	18
Vesta . . .	'10	C						25				
Perseus . . .	'10	B						25.4				
Polaris . . .	'10	B						25.5				
Regulus . . .	'10	B						25.5				
Rigel . . .	'10	B						25.3				
Altair . . .	'09	B						25.8				
Argo . . .	'09	B						25.9				
Astrea . . .	'08	B						25.9				
Spica . . .	'08	B						24.9				
Antares . . .	'09	G	124.7	14.4	8.5	100	1975	25.4	2-3 pr.	2	18	17
Arcturus . . .	'09	G						25.5				
Iris . . .	'08	G						25.5				
Thetis . . .	'08	G						25.4				
Castor . . .	'09	C						26.8				
Pollux . . .	'09	C						27.3				
Plejad . . .	'05	N						26				
Kapella . . .	'04	L						23.8				
Sirius . . .	'04	B						23				
Orion . . .	'03	B						23				
Mira . . .	'02	C	128	15.8	7.2	92	1250	23	2-3 pr.	2	20	18
Virgo . . .	'02	C						23				
Bris . . .	'00	C						23				
Vind . . .	'00	C						24.0				
Orkan . . .	'00	C						23				
Meteor . . .	'00	C						23				
Stjerna . . .	'00	C						23				
Blixt . . .	'00	C						23				
Komet . . .	'00	C						23				



## Torpedo Boats—(continued).

Name or No. P	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
			ft.	ft.	ft.	tns.		kts.			tns.	
Gondul . . .	'93	C	126.5	13.8	7.5	86	840	19.5	2 M.	12	13	16
Gudur . . .	'93	C	126.5	13.8	7.5	86	840	19.5	2 M.	12	13	16
2. Nos. 5 and 6	'06/8	G	106	12.7	5.9	59	800	21	1-3 pr.	2	11	14
3. Nos. 7, 10, 11	'06/8											
2. Nos. 8 and 9	'06/8											
2. Nos. 12, 14, 15	'06/8											
2. Nos. 83, 85	'02/3	M	104	12.4	6.1	49	700	21	1-3 pr.	2	10	14
2. Nos. 79, 81	'02/3	S	104	12.4	6.1	49	700	21	1-3 pr.	2	10	14
1. No. 77	'92	S	100.4	11.2	5.7	40	450	19	1 M.	12	9	14
1. No. 75	'91	S	100.4	11.2	5.7	40	450	19	1 M.	12	9	14
2. Nos. 71, 73	'89	S	103.1	11.5	5.6	41	360	18	1 M.	12	9	14
3. Nos. 2, 3, 4	'86	S	114.3	12.3	6.3	60	600	18	1 M.	12	7.5	12
1. No. 1	'84	T	113	12.4	6.2	65	620	19	1 M.	12	11	12

NOTES TO TORPEDO CRAFT.—Builders: K=Kockum, Malmö; G=Gothenburg New Works; L=Lindholmen, Gothenburg; T=Thornycroft; Y=Yarrow; C=Carlskrona D.Y.; B=Bergsund, Stockholm; N=Normand; S=Schichau, Elbing; S=Stockholm D.Y. *Magne* has Thornycroft boilers; *Castor*, *Pollux*, and *Plejad* have Normand; Nos. 1-4 and 71-75 have locomotive; all other Destroyers and Torpedo boats have Yarrow boilers. The Destroyers and all Torpedo boats of 1905 or later have 18 in. tubes, others have 15 in.



## SUBMARINES.

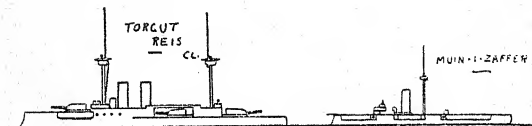
Name or No. S	Date.	Builder.	Length, ft.	Beam, ft.	Disp. above and below, tons.	I.H.P. above and below.	Speed above and below, kts.	Tubes.	Compt.
2. Nos. 8, 9	pro. bldg.	B	..	..	—/—	—/—	..	..	..
1. No. 7	..	B	..	..	—/—	—/—	..	..	..
2. Nos. 5, 6	'13/14	K	..	..	—/—	—/—	..	..	..
3. Nos. 2-4	'10/11	S	139	14.1	177/226	985/200	15/7	2-18 in.	17
Evalen	'09	F	139	14.1	177/226	985/200	15/7	2-18 in.	17
Hajen	'04	S	65.5	11.5	106/125	200/—	9.5/7	1-18 in.	8

NOTES.—Builders: S=Stockholm D.Y.; F=F.I.A.T. Co.; B=Bergsund; K=Kockum.

Name.	Date.	Length.	Beam.	Draught.	Disp.	L.H.P.	Speed.	Armament.	Duty.
<b>X Y Z</b>									
		ft.	ft.	ft.	tns.	kts.			
Edda . . .	'84	181.4	27.1	9.4	452	950	13	4-6 pr.	Mine-layer.
Rota . . .	'78	170.6	25.2	9.5	524	770	13	..	Surveying ship.
Skäggald . .	'79	170.6	25.2	9.3	528	770	13	..	Submarine depot.
Skuld . . .	'80	170.6	25.2	9.3	543	770	13	..	Surveying ship.
Verdande . .	'79	170.6	25.2	9.3	506	770	13	..	Hospital ship.
Skagul . . .	'78	170.6	25.2	9.9	530	770	13	1-6 in. ;	Gunboat.
Disa . . .	'77	167.5	25.7	9.3	504	580	11	1-4.7 in. ;	
								2-6 pr. ;	
								2 M.	Gunboat.
Blenda . . .	'75	167.5	25.7	9	460	530	11	..	Repair ship.
Svensksund .	'91	118	26.2	11.2	388	435	12	2-6 pr.	Ice breaker.
Drott . . .	'77	175	26	9.5	625	950	13	4-3 pr. ; 1 t.	Royal yacht.
Ran . . .	'58	98.6	19.7	7.2	170	140	9	2 tubes.	Torpedo school.
								2-6 in. ;	Gunnery school.
								6-4.7 in. ;	
								8-3.9 in. ;	
								2-9 pr. ;	
								4 M.	
Falken . . .	'77	76	20.5	8.5	112	..	..	..	Sailing brig.
Gladan . . .	'57	93.5	25.5	10	210	..	..	..	Sailing brig.
Najaden . . .	'97	114	26	11	281	..	..	..	Sailing ship.
Jarramas . .	'00	114	26	11	281	..	..	..	Sailing ship.
Lägg Ut . . .	..	..	..	..	52	126	9.5	..	Mine transport.
Gunhild . . .	'63	..	..	..	226	..	9	..	Mine-layer.
No. 1 . . .	'04	154	32.8	6.3	260	..	..	..	Balloon-lighter.
Eugenie . . .	'44	149	39.1	18	1360	..	..	..	Hulk.
Lagerbjelke .	'49	111	31	14.7	550	..	..	..	Hulk.
Norrköping .	'58	149	39.1	19	1450	..	..	6-4.7 in., etc.	Hulk.
Balder . . .	'70	202	36.5	18.4	1880	..	..	..	Hulk.
Sköldmön . .	'68	101.6	12.6	4	75	..	..	..	Hulk.
Vanadis . . .	'62	210	..	..	2130	..	..	..	Hulk.
Nordenskjöld	'46	95	30	13	360	..	..	..	Hulk.

NOTE.—The first ten ships were built as gunboats, but most of them have been converted to various special duties.

## TURKEY



## BATTLESHIPS.

## D

**KHEJR-ED-DIN BARBAROSSA** . . . Stettin, 14.12.91. Bought, 1910.  
(*ex German Kurfurst Friedrich Wilhelm.*)

**TORCUT REIS** . . . . . Wilhelmshaven, 30.6.91. Bought, 1910.  
(*ex German Weissenburg.*)

L., w.l. 354.3 ft. ; o.a. 380.5 ft. B., 64 ft. D. (mean), 24.3 ft.  
Disp., 9900 tons.

I.H.P. 10,035=17 kts. Coal cap., 592/1035 tons.

Engines : 2 sets 3 expans. Boilers, cylindrical (1902).

Armour : Harvey. Complete belt, 6.5 ft. wide ; amidships, 15.7 in. at top, 7.9 in. at bottom ; at ends, 11.8 in. at top, 7.1 in. at bottom ; barbettes, 11.8 in. ; turrets, 4.7 in. ; battery, 1.7 in. ; C.T., 11.8 in. ; deck, flat on belt, 2.5 in.

Armament : 4—11 in. (40 cal.) in turrets f. and a. ; 2—11 in. (35 cal.) in turret amidships ; 8—4.1 in. (35 cal.) in battery ; 8—3.4 in. ; 12—1 pr. Torpedo tubes, 2—18 in. submerged, broadside.

Compt. 579.

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(*Messudieh*, a 10,000-ton battleship, built in 1874 and rebuilt in 1903, sunk 1914.)

**U MUINI-ZAFFER.** Blackwall, 1869. Reconstd. at Genoa, 1907

L., 236 ft. B., 36 ft. D., 16 ft. Disp. (about) 2400 tons.

I.H.P. 2200=12 kts. Coal cap., 220 tons.

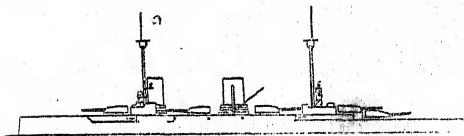
Engines: Horizontal. Boilers (1907), cylindrical. Single screw.

Armour: Iron. Complete belt, 6 in. amidships, 3 in. at ends; battery, 6 in.; B.H., 5 in.; deck (flat), 1.5 in.

Armament: 4-5.9 in. (40 cal.) at corners of battery; 6-2.9 in. (15 pr.); 10-6 pr.; 2-3 pr.; 4 M. Compt. 220.

(A sister-ship, the *Avni Ullah*, was lost in the war with Italy, and a very similar ship, the *Feth-i-Bulend*, lost in the war with Greece, 1912.)

(An old battleship of 5600 tons, the *Assar-i-Tewfik*, was lost in the war with Bulgaria, 1913.)

**BATTLE-CRUISER.****A YAWUZ SULTAN SELIM** (ex *Goeben*). Hamburg, 28.3.11.  
(Bought from Germany, 1914.)

L., w.l. 610.2 ft. B., 96.8 ft. D. (mean), 26.9 ft. Disp., 22,625 tons.

I.H.P. 51,320=25.5 kts. Coal cap., 984/3053 tons.

Engines: Parsons turbines. Boilers, Schultz.

Trials: I.H.P. 70,302=27.2 kts.

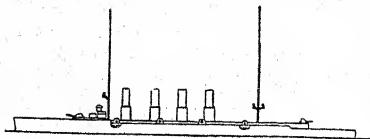
Armour: Krupp. Complete belt about 15 ft. wide, 11 in. maximum for about 390 ft., 3.9 in. at ends; turrets and barbettes, 7.9 in.; battery, 4.9 in.

Armament: 10-11 in. (45 cal.) in pairs in turrets, one forward, two diagonally amidships, two aft (No. 4 firing over No. 5); 12-5.9 in. (45 cal.) in battery; 12-3.4 in. (24 pr.). Torpedo tubes, 4-19.5 in. submerged, bow, stern, and broadside.

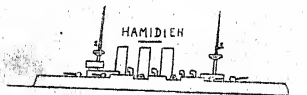
Compt. 1013.

## CRUISERS.

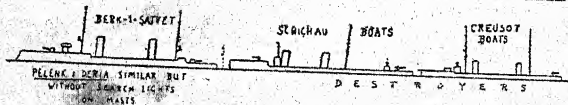
G



**MIDÜLLÜ** (ex *Breslau*). Stettin, 16.5.11. Bought from Germany, 1914  
 L., w.l. 446.2 ft. B., 45.9 ft. D. (mean), 16.7 ft. Disp., **4478 tons**.  
 I.H.P. 24,670=26 kts. Coal cap., 1108 tons.  
 Engines: A.E.G. turbines. Boilers, Schultz.  
 Trials: I.H.P. 28,477=27.2 kts.  
 Armour: Krupp. Belt amidships, 3.9 to 2.4 in.; deck, 2 in. to  
 8 in.; C.T., 3.9 in. to 3.1 in.  
 Armament: 12-4.1 in. (40 cal.); 2 M. Torpedo tubes, 2-18 in.  
 submerged, broadside. Compt. 373.



**I HAMIDIEH** . . . . . (ex *Abdul Hamid*). Elswick, 25.9.03  
 L., 340 ft. B., 47.5 ft. D. (mean), 16 ft. Disp., **3830 tons**.  
 I.H.P. 12,500=22 kts. Coal cap., 275/600 tons.  
 Engines: 2 sets 3 expans. by Hawthorn, Leslie, & Co. Boilers,  
 cylindrical.  
 Armour: Deck, 4 in. on slopes, 1.5 in. on flat.  
 Armament: 2-6 in. (45 cal.) f. and a.; 8-4.7 in. (50 cal.) on  
 broadside, all in shields; 6-3 pr.; 6-1 pr. Torpedo tubes,  
 2 above water. Compt. 302.  
 (*Medjidieh*, a very similar ship of 3432 tons, sunk 1915.)



## TORPEDO GUNBOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Guns.	Tubes.	Coal.	Compt.
L			ft.	ft.	ft.	tns.		kts.		tns.		
Berk-i-Satvet . .	'07	K	262.5	27.7	8.2	763	5030	22	{ 2-4 1 in.; 6-6 pr.; 2-1 pr. 5 M.	3	240	105
Peik-i-Shefket . .	'07	K										
Felenk-i-Deria . .	'00	K	223.6	31.2	16.4	886	4440	19	{ 2-4 1 in.; 6-3 pr.	3	..	111

## M DESTROYERS.

Yadikar-i-Millet . .	'09	S	237	25.6	10.2	610	13,810	35	{ 2-21 pr.; 2 M.	3	160	83
Mauvenet-i-Millet . .	'09	S										
Numun-i-Hamiet . .	'03	S										
Gairet-i-Watanie . .	'03	S										

## N

Basra . . . . .	'07	C	184	19.7	9.5	284	5950	28	{ 1-6 pr.; 6-3 pr.	2	60	..
Samsoun . . . . .	'07	C										
Yar Hissar . . . . .	'07	C										
Tassos . . . . .	'07	C										
Berk-Efshan . . . .	'94	K	187	21.7	9.2	266	3450	25	{ 6-1 pr.	2	60	..
Tajjar . . . . .	'94	K	187	21.7	9.2	266	3450	25				

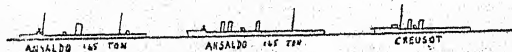
## O TORPEDO BOATS.

Dratch . . . . .	'06	A	167	18.4	4.7	165	2170	27	2-3 pr.	2	60	..				
Kutahia . . . . .	'06	A														
Mossul . . . . .	'06	A														
Uria . . . . .	'06	A														
Ak Hissar . . . . .	'04	A	164	18.7	4.7	145	2170	27	2-3 pr.	{ 2	50	..				
Abdul Medjid . . . .	'01	A														
Yunis . . . . .	'01	A	164	18.7	4.7	145	2170	27	2-1 pr.	3	25	..				
Sultan Hissar . . . .	'07	C	124.6	18.7	4.3	96	1880	26								
Sivri Hissar . . . . .	'07	C														
Timur . . . . .	'07	C														

Q Edjdez, 1890, 150 tons, 23 kts. Tir-i-Safer, Saiki, Sef-i-Bahr, Vessile-i-Nusret, Gilyom, Mahabet, Satvet, Timsah, Nassir, Fatieh Nusret, Shehab, Tarik, Pervim, 1886-90, 85 tons, 21 kts. Medjidieh, Birhan-ed-Din, Tewfik, Esser-i-Teraki, Shanaver, Ninet, 1885-89, 42 tons, 20 kts.

NOTES.—Builders: S=Schichau; C=Creusot; A=Ansaldo; K=Krupp.

All the boats of 1890 or earlier are probably useless, if still in existence. In the war with Italy (1911-12) there were lost the *Eliagot* (or *Alpagot*), *Tokat*, and *Angora* of the 165-ton class, the *Hamid Abad* of the 96-ton class, and possibly some others. In the war with Greece (1912) the *Antalia* of the 165-ton class was lost.



## GUNBOATS.

R

**AIDIN REIS, DORUK REIS, GIASIA REIS, HIZIZ REIS, PREVEDA, SAKIZ** . . . . . La Seyne and St. Nazaire, 1912-13

L., 178.8 ft. B., 18 ft. D. (mean), 8.2 ft. Disp., 502 tons.

I.H.P. 1010=14 kts.

Armament: 2-3.9 in. (50 cal.); 2-3 pr. 2 M.

R

**MARMARIS** . . . . . Creusot, 1907

L., 174 ft. B., 24.6 ft. D., 9.5 ft. Disp., 492 tons.

I.H.P. 940=14 kts.

Armament: 4-9 pr.; 2-1 pr. 1 torpedo tube (18 in.)  
Compt. 66.

R

**AINTAB, BAFRA, MALATIA, ORDU, TASHKIUPRU, GUKJEDAH, NEROMEHIR, REFADIEH** . . . . . Creusot, 1907-9

L., 154.2 ft. B., 20.3 ft. D., 6.6 ft. Disp., 210 tons.

I.H.P. 325=12.5 kts. Coal cap., 44 tons.

Armament: 2-3 pr.; 2 M.; 1-18 in. Torpedo tube above water.  
(*Sed-el-Bahr* of this class was lost in the war with Italy, 1911.)

R

**JOSGAD, KASTAMONI** . . . . . 1906

L., 129 ft. B., 29 ft. D., 9.7 ft. Disp., 185 tons.

I.H.P. =12.5 kts. Coal cap., 40 tons.

Armament: 2-3 pr.

R

**BARIKA-I-ZAFER, SHEVKET-NUMA, NASRI HUDA, TIMSAH RECHANIEH, SIAK-I-SHADI, NOURIL BAHAR** . . . . . Constantinople, 1894-1903

L., 121 ft. B., 18 ft. D., 6.6 ft. Disp., 195 tons.

I.H.P. 450=12 kts. Coal cap., 80 tons.

Armament: 4-3 in. (12 pr.); 2-3 pr. Torpedo tubes, 2 above water.

R

**ZOHAF, KILID-EL-BAHR** . . . . . Germania, 1894

L., p.p. 181 ft.; o.a. 190 ft. B., 24.6 ft. D., 11.8 ft. Disp., 643 tons.

I.H.P. 640=12 kts.

Armament: 4-1 pr. Torpedo tubes, 2 above water.

(Seven gunboats were destroyed in the war with Italy on 7th January 1912, but their names cannot be ascertained.)

**R SEYAT, FURAT . . . . . 1883**

L., 119.5 ft. B., 21.3 ft. D., 8 ft. Disp., 200 tons.  
 I.H.P. 100=10 kts. Coal cap., 100 tons.  
 Armament: 4-3 in. (old); 2-3 pr.

**TRANSPORTS.**

Darmstadt, Oldenburg, Roland, Assaye, Tayar-i-Muzhde (ex  
 Pembroke Castle), and Helius.

(The three first were bought from the N. German Lloyd Co.,  
 '10-'11, the last two from the Union-Castle Line, '06.)

**YACHTS.****X ERTHOGRAL . . . . . Elswick, 1903**

2 funnels f. and a. 3 pole masts with yards on fore. Clipper bow.

L., p.p. 260 ft. B., 27.5 ft. D., 10 ft. Disp., 900 tons.

I.H.P. 2500=21 kts.

Engines by Hawthorn, Leslie, & Co. Boilers, cylindrical.

Armament: 8-3 pr.

**X****SEUGHUULU . . . . . Elswick, 25.9.03. 1 funnel, 2 pole masts**

L., 123.5 ft. B., 18 ft. D., 5.7 ft. Disp., 180 tons.

I.H.P. 250=14 kts.

**X**

**STAMBUL . . . . . England, 1865. 1050 tons**

**FUAD . . . . . " 1864. 1218 "**

**IZZEDIN . . . . . " 1865. 1218 "**

Paddle Steamers.

**RIVER AND HARBOUR GUNBOATS.****V 20 boats . . . . . Thornycroft, 1911**

L., w.l. 60 ft. B., 11 ft. D., 2.5 ft.

Internal combustion engines of 140 H.P.=11 kts.

Bullet-proof steel over engines and C.T.

Armament: 2 M.

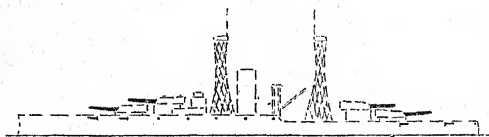
(Two others were captured by Italy, 1911.)

There are other small Gunboats, Transports, Special Service  
 Steamers, and Hulks; but trustworthy information is  
 lacking.



## UNITED STATES

## BATTLESHIPS.



A\*

IDAHO . . . . .	———	C. —	L. —	B. 1915.	A. 1914
MISSISSIPPI . . . . .	———	" —	" —	" "	" "
CALIFORNIA . . . . .	———	" —	" —	" "	" "

L., o.a. 624 ft. B., 97.2 ft. D., 28.8 ft. Disp., 32,000 tons.

I.H.P. 32,000=20.5 kts.

Armour: Krupp. Partial belt reaching to main deck (aftermost 60 ft. to lower deck only), 14 in. amidships, tapering to 8 in. at ends; turrets, 18 in. to 8 in., with 5-in. tops; barbettes, 13 in.; funnel base, 13 in.; C.T., 16 in.; deck, 2 in.; main deck, 3 in.

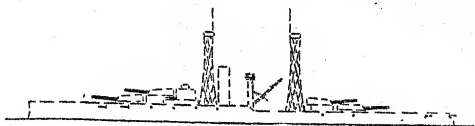
Armament: 12-14 in. (45 cal.) in four turrets on centre line; 22-5 in. (50 cal.), unarmoured; 4-3 pr.; 2-1 pr.; 2 M. Torpedo tubes, 4-21 in. submerged, broadside.

Compt. 1056.

A\*

ARIZONA . . . . .	New York D.Y.	C. —	L. —	B. 11.13.	A. 1913
PENNSYLVANIA . . . . .	Newport News.	" —	" 3.15.	" 27.10.13.	" 1912

Disp., 31,400 tons. Otherwise as *California* class.



A\*

NEVADA . . Fore River Co. C. — L. 1914. B. 4.11.12. A. 1911

OKLAHOMA . New York S. Co. „ — „ 23.3.14. „ 26.10.12. „

L., w.l. 575 ft.; o.s. 583 ft. B., 95.2 ft. D. (max.), 28.5 ft.  
Disp., 27,500 tons.

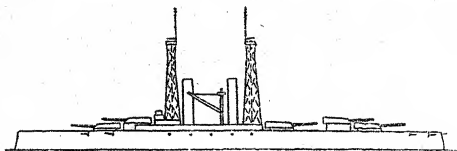
I.H.P. 32,000=20.5 kts. Oil fuel only. Oil cap., 1333/2000 tons.

Engines: 2 sets 4 expans. in *Nevada*, Curtis turbines in *Oklahoma*.  
Boilers, Babcock & Wilcox.

Armour: Krupp. Belt, 17.5 ft. wide and about 480 ft. long  
(aftermost 50 ft., 8.5 ft. wide only), 13.5 in., tapering to 8 in.  
at bottom edge; bulkheads, 13.5 in. to 8 in.; fronts of 3-gun  
turrets, 18 in., 2-gun turrets, 16 in.; turret sides, 10 in. to  
9 in., with 5 in. tops; barbettes, 13.5 in.; C.T. and tube,  
16 in.; deck, sloping, 2 in. to 1.5 in.; armoured maindeck,  
3 in.

Armament: 10—14 in. (45 cal.) in four turrets on centre line,  
Nos. 2 and 3 with two guns each firing over Nos. 1 and 4  
with three guns each; 21—5 in. (50 cal.); 4—3 pr.; 2—1  
pr.; 2 M. Torpedo tubes, 4—21 in. submerged.

Compt. 1025.

**A\***

**NEW YORK** New York D.Y. C. 1914. L. 30.10.12. B. 11.9.11. A. 1910

**TEXAS.** . Newport News. „ 12.3.14. „ 18.5.12. „ 17.4.11. „

L., w.l. 565 ft.; o.a. 573 ft. B., 95.2 ft. D. (max.), 28.5 ft.  
Disp., 27,000 tons.

I.H.P. 32,000=21 kts. Coal cap., 2200/2850 tons. Oil, 400 tons.

Engines: 2 sets 4 expans. *New York* by Camp; *Texas* by builders. Boilers, Babcock & Wilcox.

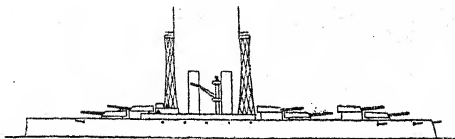
**Trials:**

**Armour:** Krupp. Complete belt, 8 ft. wide, 12 in. amidships at top, 10 in. at bottom, tapering to 4 in. at ends; lower deck side amidships, 11 in. to 9 in.; bulkheads, forward, 11 in. to 10 in., aft, 9 in.; turrets, 14 in. to 8 in.; barbettes, 12 in. to 5 in.; battery and casemates, 6 in.; C.T., 12 in.; deck, sloping, in.

**Armament:** 10-14 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, and No. 4 over No. 5; 21-5 in. (50 cal.), ten in battery, four forward, and five aft in casemates, two on superstructure; 4-3 pr.; 2-1 pr.; 2 M. Torpedo tubes, 4-21 in. submerged, broadside.

Compt. 1014.

(The return to reciprocating engines has been made with a view to economy of fuel at cruising speeds.)



A

**WYOMING** Philadelphia. C. 25.9.12. L. 25.5.11. R. 9.2.10. A. 1909

**ARKANSAS** New York S. Co., 17.9.12. „ 14.1.11. „ 27.1.10. „

L., w.l. 554 ft.; o.a. 562 ft. B., 93.2 ft. D. (mean), 28.5 ft.  
Disp., 26,000 tons.

I.H.P. 28,000=20.5 kts. Coal cap., 1960/2500 tons. Oil, 400 tons.

Engines: Parsons turbines, four shafts. Boilers, Babcock & Wilcox.

Trials:

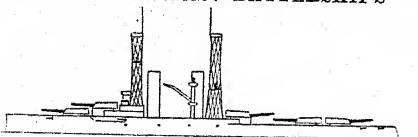
Armour: Krupp. Complete belt, 8 ft. wide, 11 in. amidships at top, 9 in. at bottom, tapering to 5 in. attends; lower deck side amidships, 10 in. to 9 in.; main deck side amidships, 6.5 in.; battery and casemates, 6.5 in.; turrets, 12 in. to 9 in.; barbettes, 11 in. to 4 in.; C.T., 12 in.; deck, sloping, 3 in.

Armament: 12-12 in. (50 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1, No. 5 over No. 6, No. 3 being also elevated above No. 4; 21-5 in. (50 cal.), ten in battery, two forward and five aft in casemates, four on superstructure; 4-3 pr.; 2-1 pr.; 2 M. Torpedo tubes, 2-21 in. submerged, broadside.

Compt. 1043.

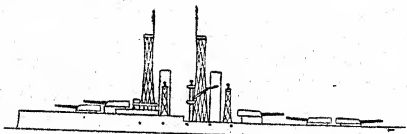
(Full-load displacement, 27,243 tons.)

A

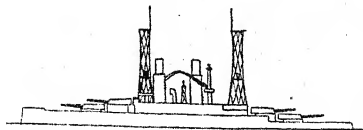


**FLORIDA** New York D.Y. C. 15.9.11. L. 12.5.10. B. 9.3.09. A. 1908  
**UTAH** . . . New York S. Co. „ 31.8.11. „ 23.12.09. „ 16.3.09.  
 L., p.p. 510 ft. ; w.l. 518.7 ft. ; o.a. 521.5 ft. ; B., 88.2 ft. ” D.  
 (mean), 28.5 ft. Disp., 21,825 tons.  
 I.H.P. 28,000=20.7 kts. Coal cap., 1600/2500 tons. Oil, 400 tons.  
 Engines : Parsons turbines. Boilers, Babcock & Wilcox.  
 Trials : *Florida*, ; *Utah*, I.H.P. 28,477=21.2 kts.  
 Armour : Krupp. Complete belt, 8 ft. wide, 11 in. at top and  
 9 in. at bottom amidships, tapering to 3 in. at ends ; lower  
 deck side amidships, 10 in. to 8 in. ; turrets, 12 in. to 8 in. ;  
 barbettes, 10 in. ; battery and casemates, 6.5 in. ; C.T., 12  
 in. ; deck, sloping, 3 in.  
 Armament : 10–12 in. (45 cal.) in pairs in turrets, No. 2 firing  
 over No. 1, and No. 3 over Nos. 4 and 5 ; 16–5 in. (50 cal.)  
 eight in battery, eight in casemates ; 4–3 pr. ; 4–1 pr. ;  
 2 M. Torpedo tubes, 2–21 in. submerged, broadside.  
 Compt. 1014. (Full-load displacement, 23,033 tons.)

A



**DELAWARE** Newport News. C. 4.3.10. L. 6.2.09. B. 11.11.07. A. 1907  
**N. DAKOTA** Fore River Co. „ 11.3.10. „ 10.11.08. „ 16.12.07.  
 L. as in *Florida* class. B., 85.2 ft. D. (mean), 27 ft. Disp.,  
 20,000 tons.  
 I.H.P. 25,000=21 kts. Coal cap., 1000/2300 tons. Oil, 380 tons.  
 Engines : *Delaware*, 2 sets 3 expans. ; *N. Dakota*, Curtis  
 turbines. Boilers, Babcock & Wilcox.  
 Trials : *Delaware*, I.H.P. 28,578=21.5 kts. ; *North Dakota*,  
 I.H.P. 33,875=22.2 kts.  
 Armour : As in *Florida* class, but battery and casemates only 5 in.  
 Armament : As in *Florida* class, but only 14–5 in.  
 Compt. 927. (Full-load displacement, 22,060 tons.)



## A

**MICHIGAN** . New York S. Co. C. 4.1.10. L. 25.5.08. B. 17.12.06. A. 1905  
**S. CAROLINA** Philadelphia. ,, 1.3.10. ,, 11.7.08. ,, 18.12.06. ,,

L., w.l. 450 ft. B., 80.2 ft. D. (mean), 24.5 ft. Disp., 16,000 tons.

I.H.P. 16,500=18.5 kts. Coal cap., 900/2200 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Trials: *Michigan*, I.H.P. 16,016=18.8 kts.; *South Carolina*, I.H.P. 17,900=18.9 kts.

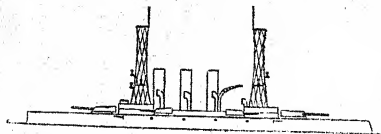
Armour: Krupp. Belt, about 310 ft. long and 8 ft. wide, 11 in. at top and 9 in. at bottom amidships, 12 in. at top and 10 in. at bottom abreast of turrets; ends, 1.5 in.; bulkheads, 10 in.; lower deck side amidships, 10 in. at bottom and 8 in. at top; bulkheads, 8 in.; turrets, 12 in. to 8 in.; barbettes, 10 in. to 8 in.; C.T., 12 in.; deck, flat on belt amidships, 1.5 in.; sloping aft, 3 in.

Armament: 8-12 in. (45 cal.) in pairs in turrets on centre line, No. 2 firing over No. 1 and No. 3 over No. 4; 22-3 in. (14 pr.); 2-3 pr.; 8-1 pr.; 4 M. Torpedo tubes, 2-21 in. submerged, broadside.

Compt. 869.

(Full-load displacement, 17,617 tons.)

(These ships were designed before the *Dreadnought*. They are therefore the first "all big-gun" ships.)

**B**

**NEW HAMPSHIRE** New York S. Co., 20.6.06. L.d. dn. 1905. Auth. 1904  
**VERMONT** . . . Fore River Co., 31.8.05. " 1904. " 1903  
**KANSAS** . . . New York S. Co., 12.8.05. " " " "  
**MINNESOTA** . . Newport News, 8.4.05. " " " "

L., w.l. 450 ft.; o.a. 456.3 ft. B., 76.7 ft. D. (mean), 24.5 ft.  
 Disp., 16,000 tons.

I.H.P. 16,500=18 kts. Coal cap., 900/2200 tons."

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Trials: *New Hampshire*, I.H.P. 19,100=18.1 kts.; *Vermont*,  
 I.H.P. 17,624=18.3 kts.; *Kansas*, I.H.P. 19,303=18.1  
 kts.; *Minnesota*, I.H.P. 19,896=18.8 kts.

Armour: Krupp. Complete belt, 9.2 ft. wide amidships and  
 9 in. thick for 285 ft., tapering to 8 ft. wide and 4 in. thick  
 at ends; lower deck side amidships, 7 in.; B.H. 6 in.;  
 main turrets, 12 in. to 8 in., with barbettes 10 in. to 7.5 in.;  
 secondary turrets, 6.5 in. to 6 in., with barbettes 6 in. to 4  
 in.; battery, 7 in.; C.T., 9 in.; deck, sloping, 3 in.

Armament: 4-12 in. (45 cal.) in pairs in turrets f. and a.; 8-8  
 in. (45 cal.) in pairs in turrets on beam; 12-7 in. (50 cal.) in  
 battery; 20-3 in. (14 pr.); 4-3 pr.; 4-1 pr.; 8 M.  
 Torpedo tubes, 4-21 in. submerged, broadside.

Compt. 856.

(Full-load displacement, 17,650 tons. D. (max.), 26.7 ft.)

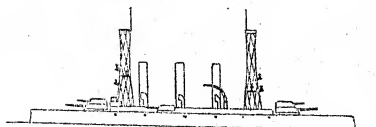
**B**

**CONNECTICUT** . New York D.Y., 20.9.04. L.d. dn. 4.03. Auth. 1902  
**LOUISIANA** . . Newport News, 27.8.04. " 1.2.03. " "

Trials: *Connecticut*, I.H.P. 20,525=18.8 kts.; *Louisiana*, I.H.P.  
 20,442=18.8 kts.

Armour: Krupp. Complete belt as in *New Hampshire* class, but  
 11 in. at top and 9 in. at bottom amidships, tapering to 4 in.  
 at ends. Deck, flat on belt amidships, 3 in.

Otherwise same as *New Hampshire* class.

**B**

<b>NEW JERSEY</b>	Fore River Co.,	10.11.04.	Ld. dn. 2.4.02.	Auth. 1899
<b>GEORGIA</b>	Bath Ironworks,	11.10.04.	" "	" "
<b>NEBRASKA</b>	Seattle,	7.10.04.	" 4.7.02.	" "
<b>VIRGINIA</b>	Newport News,	28.4.04.	" 21.5.02.	" 1900
<b>RHODE ISLAND</b>	Fore River Co.,	17.5.04.	" 1.5.02.	" "

L., w.l. 435 ft.; o.a. 441 ft. B., 76.2 ft. D. (mean), 24 ft.  
Disp., 14,948 tons.

I.H.P. 19,000=19 kts. Coal cap., 900/1700 tons.

Engines: 2 sets 3 expans. Boilers, *Virginia* and *Georgia*,  
Nielause; others, Babcock & Wilcox.

Trials: *New Jersey*, I.H.P. 22,805=19.2 kts.; *Georgia*, I.H.P.  
24,597=19.2 kts.; *Nebraska*, I.H.P. 20,947=19 kts.;  
*Virginia*, I.H.P. 22,501=19 kts.; *Rhode Island*, I.H.P.  
19,860=19 kts.

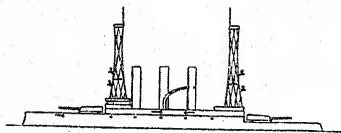
Armour: Krupp. Complete belt, 8 ft. wide, 11 in. at top and  
8 in. at bottom amidships, tapering to 4 in. at ends; bulk-  
heads, 6 in. (sloping at forward end); lower deck side  
amidships (245 ft.), 6 in.; main turrets, 11 in. to 10 in., with  
barbettes 10 in. to 6 in.; secondary turrets, 6.5 in. to 6 in.,  
with barbettes, 6 in.; battery, 6 in.; C.T., 9 in.; deck, flat  
on belt, 3 in.

Armament: 4-12 in. (40 cal.) in pairs in turrets f. and a.;  
8-8 in. (45 cal.) in pairs in turrets, two superposed on main  
turrets and one on each beam; 12-6 in. (50 cal.) in battery;  
12-3 in. (14 pr.); 4-3 pr.; 8 M. Torpedo tubes, 4-21  
in. submerged, broadside.

Compt. 812.

(Full-load displacement, 16,094 tons. D. (max.), 26 ft.)





## C

<b>MAINE</b> . . . .	Philadelphia,	27.7.01.	Ld. dn. 15.2.99.	Auth. 1898
<b>MISSOURI</b> . .	Newport News,	28.12.01.	" 7.2.00.	" "
<b>OHIO</b> . . . .	San Francisco,	18.5.01.	" 22.4.99.	" "

L., w.l. 388 ft. ; o.a. 393 ft. B., 72.2 ft. D. (mean), 23.8 ft.  
Disp., 12,500 tons.

I.H.P. 16,000=18 kts. Coal cap., 1000/2000 tons.

Engines : 2 sets 3 expans. Boilers : *Maine*, Niclausse ; others,  
Thornycroft.

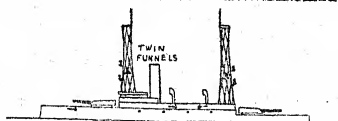
Trials : *Maine*, I.H.P. 15,603=18.3 kts. ; *Missouri*, I.H.P.  
16,220=18.2 kts. ; *Ohio*, I.H.P. 15,845=17.8 kts.

Armour : Krupp. Partial belt from bow to after turret, 7.5 ft.  
wide, 12 in. at top, 8.5 in. at bottom for 185 ft. ; amidships,  
4 in. forward ; bulkheads, 10 in., lower deck side amid-  
ships, 5.5 in. ; turrets, 12 in. to 11 in. ; barbettes, 12 in. to  
9 in. ; battery and casemates, 6 in. ; C.T., 10 in. ; deck, flat  
on belt, 2.7 in. ; deck, aft, 4 in.

Armament : 4—12 in. (40 cal.), in pairs in turrets f. and a. ; 16—  
6 in. (40 cal.), ten in main deck battery, four in upper deck  
battery, two in casemates forward ; 6—3 in. (14 pr.) ; 4—6  
pr. ; 6—1 pr. ; 2 M. Torpedo tubes, 2—18 in. submerged,  
broadside.

Compt. 648.

(Full-load displacement, 13,500 tons. D. (max.), 25.5 ft.)



**C**

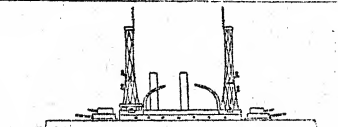
**ALABAMA** . . . Philadelphia, 18.5.98. Ld. dn. 2.12.96. Auth. 1896  
**ILLINOIS** . . . Newport News, 4.10.98. " 10.2.97. " "  
**WISCONSIN** . . . San Francisco, 26.11.98. " 9.2.97. " "  
 L., w.l. 368 ft. B., 72.2 ft. D. (mean), 23.5 ft. Disp., 11,525 tons.

I.H.P. 10,000=16 kts. Coal cap., 800/1450 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Harvey nickel. Partial belt from bow to after turret, 7.5 ft. wide, 16.5 in. at top, 9.5 in. at bottom amidships, 4 in. forward; B.H. forward, 10 in., aft, 12 in.; lower deck side amidships, 5.5 in.; battery and casemates, 5.5 in.; turrets, 14 in.; barbettes, 15 in. to 10 in.; C.T., 10 in.; deck, flat on belt, 2.7 in.; deck aft, 4 in.

Armament: 4-13 in. (35 cal.) in pairs in turrets f. and a.; 14-6 in. (40 cal.), eight in main deck battery, four in upper deck battery, two in casemates forward, 4-3 in. (14 pr.); 4-6 pr.; 4 M. No torpedo tubes. Compt. 692.  
 (Full-load displacement, 12,325 tons. D. (max.), 26 ft.)



**C**

**KEARSAGE** . . . Newport News, 24.3.98. Ld. dn. 30.6.96. Auth. 1895  
**KENTUCKY** . . . " 24.3.98. " 30.6.96. " "

Dimensions as in *Alabama*. Disp., 11,500 tons.

I.H.P. 10,500=16 kts. Coal cap., 410/1210 tons.

Armour: As in *Alabama*, but main turrets, 17 in. to 15 in.; secondary turrets, 11 in. to 9 in.; lower deck side, 5 in.

Armament: 4-13 in. (35 cal.) in pairs in turrets f. and a.; 4-8 in. (40 cal.) in pairs in turrets superposed on main turrets; 18-5 in. (40 cal.), fourteen in battery, four above; 4-6 pr.; 4-1 pr.; 4 M.

Compt. 686.

(Full-load displacement, 12,320 tons.)

**C****IOWA** . . . Philadelphia, 28.3.96. Laid down, 5.8.93

L., w.l. 360 ft. B., 72.2 ft. D. (mean), 24 ft. Disp., 11,340 tons.  
 I.H.P. 11,000=16.5 kts. Coal cap., 625/1795 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Harvey. Partial belt, 196 ft. long, 7.5 ft. wide, 14 in. at top, 6 in. at bottom; B.H., 12 in.; lower deck side amidships, 5 in.; main turrets and barbettes, 15 in.; secondary turrets, 6 in.; barbettes, 8 in.; hoists, 3 in.; C.T., 10 in.; deck, flat on belt, 2.7 in.

Armament: 4-12 in. (35 cal.) in pairs in turrets fore and aft; 8-8 in. (30 cal.) in pairs in turrets on beam; 10-4 in.; 4-6 pr.; 4-1 pr.; 4 M.

Compt. 650.

**C**

**INDIANA** . . . Philadelphia, 28.2.93. Laid down, 7.5.91

**MASSACHUSETTS** . . . " 10.6.93. " 25.6.91

**OREGON** . . . San Francisco, 26.10.93. " 19.11.91

L., w.l. 348 ft. B., 69.2 ft. D. (mean), 24 ft. Disp., 10,288 tons.

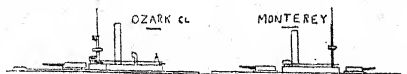
I.H.P. 9500=16 kts. Coal cap., 400/1597 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox (1905/8).

Armour: Harvey. Partial belt, 210 ft. long, 7.5 ft. wide, 18 in. to 15 in. at top, 8 in. at bottom; B.H., 14 in.; lower deck side amidships, 4 in.; main turrets, 15 in., with barbettes 17 in.; secondary turrets, 6 in., with barbettes 8 in. and hoists, 3 in.; C.T., 8 in.; deck, flat on belt, 2.7 in.; sloping at ends, 8 in.

Armament: 4-13 in. (35 cal.) in pairs in turrets fore and aft; 8-8 in. (30 cal.) in pairs in turrets on beam; 12-3 in. (14 pr.); 4-3 pr.; 2-1 pr.; 2 M.

Compt. 580.



## MONITORS.

## U

**OZARK** . . . . . Newport News, 10.11.00. (ex *Arkansas*.)

**TONOPAH** . . . . . Bath Ironworks, 24.11.00. (ex *Nevada*.)

**TALLAHASSEE** . . . . . Elizabeth Port, 30.11.00. (ex *Florida*.)

**CHEYENNE** . . . . . San Francisco, 8.9.00. (ex *Wyoming*.)

L., w.l. 252 ft. B., 50 ft. D. (mean), 12.5 ft. Disp., 3235 tons.

I.H.P. 2400=12 kts. Coal cap., 200/400 tons.

Engines: 2 sets 3 expans. Boilers: *Ozark*, Thornycroft; *Tonopah*, Niclausse; *Tallahassee*, Mosher; *Cheyenne*, Babcock & Wilcox.

Armour: Krupp. Complete belt, 5 ft. wide (only 3.5 ft. at stern), 11 in. at top and 5 in. at bottom amidships, tapering to 5 in. at top and 3 in. at bottom at ends; turret, 10 in.; barbette, 11 in.; C.T., 7 in.; deck, flat on belt, 1.5 in.

Armament: 2-12 in. (40 cal.) in turret forward; 4-4 in. (50 cal.) on superstructure; 3-6 pr.; 4-1 pr.; 2 M.

Compt. 148.

(*Tallahassee*, gunnery experimental ship; others, submarine tenders.)

## U

**MONTEREY** . . . . . San Francisco, 28.4.91

L., w.l. 256 ft. B., 59 ft. D. (mean), 14.7 ft. Disp., 4084 tons.

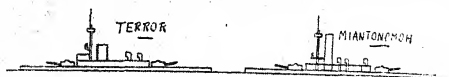
I.H.P. 5000=14 kts. Coal cap., 200/233 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Armour: Harvey. Complete belt, 13 in. to 6 in.; turrets, 8 in.; forward barbette, 14 in. to 8 in.; after barbette, 11.5 in. to 7.5 in.; C.T., 10 in.; deck, flat on belt, 3 in. to 2 in.

Armament: 2-12 in. (35 cal.) in forward turret; 2-10 in. (35 cal.) in after turret; 6-6 pr.; 4-1 pr.; 2 M.

Compt. 203.



## U

**TERROR** . . . . Philadelphia, 1883. Laid down, 1874

**MIANTONOMOH** . Chester, 1876. " "

Length, 249.3 ft. Beam, 55.7 ft. Draught, 14.2 ft. Disp., 3990 tons.

I.H.P. 1600=10.5 kts. Coal cap., 276 and 250 tons.

Engines: 2 sets, compound. Boilers, cylindrical.

Armour: Belt iron, rest steel. Complete belt, 7 in. amidships, tapering to 4 in. at ends; turrets, 11.5 in.; deck, 2 in.; C.T., 11.5 in.

Armament: 4-10 in. (30 cal.) in pairs in turrets; 2-6 pr. (Terror has also 4-4 in. (40 cal.).)

Compt. 183 and 229.



## U

**MONADNOCK** . . San Francisco, 1883. Laid down, 1874

Length, 249.3 ft. Beam, 55.7 ft. Draught, 14.2 ft. Disp., 3990 tons.

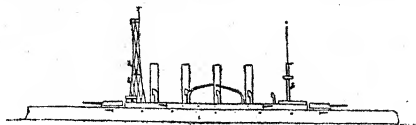
I.H.P. 3000=12 kts. Coal cap., 386 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

Armour: Belt iron, rest steel. Complete belt, 9 in. amidships, tapering to 5 in. at ends; barbettes, 11.5 in. with 7.5 in. turrets; deck, 2 in.; C.T., 7.5 in.

Armament: 4-10 in. (30 cal.) in pairs in turrets; 2-4 in. (40 cal.); 5-6 pr.

Compt. 229.



## ARMoured CRUISERS.

## E

<b>NORTH CAROLINA</b>	Newport News,	6.10.06.	Ld. dn. 1905.	Auth. 1904
<b>MONTANA</b> . . .	"	15.12.06.	" "	" "
<b>TENNESSEE</b> . .	Philadelphia,	3.12.04.	" 1903.	" 1902
<b>WASHINGTON</b> . .	New York S. Co.,	18.3.05.	" "	" "

L., w.l. 502 ft.; o.a. 504.5 ft. B., 72.9 ft. D. (mean), 25 ft.  
Disp., 14,500 tons?

I.H.P. 23,000=22 kts. Coal cap., 900/2000 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

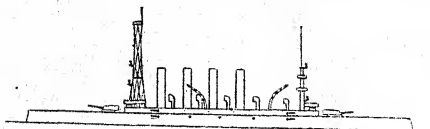
Trials: *North Carolina*, I.H.P. 29,225=22.5 kts.; *Montana*,  
I.H.P. 27,580=22.2 kts.; *Tennessee*, I.H.P. 26,540=22.1;  
*Washington*, I.H.P. 26,862=22.3 kts.

Armour: Krupp. Complete belt, 7.5 ft. wide, 5 in. for 370 ft. amidships, 3 in. at ends; bulkheads, 5 in.; lower deck side amidships, battery, and casemates, 5 in.; turrets, 9 in. to 5 in.; barbettes, 7 in. to 4 in.; forward C.T., 9 in.; after C.T., 5 in.; battery and casemates for 3-in. guns, 2 in.; deck, sloping, 4 in. to 1.5 in.

Armament: 4-10 in. (40 cal.) in pairs in turrets f. and a.; 16-6 in. (50 cal.), twelve in battery, four in upper deck casemates; 22-3 in. (14 pr.); 4-3 pr.; 4-1 pr.; 4 M. Torpedo tubes, 4-21 in. submerged, broadside.

Compt. 950.

(Full-load displacement, 15,980 tons. D. (max.), 27.1 ft.)



## F

<b>COLORADO</b>	Philadelphia,	25.4.03.	Ld dn.	25.4.01.	Auth.	1900
<b>SOUTH DAKOTA</b>	San Francisco,	14.7.04.	"	30.9.02.	"	"
<b>MARYLAND</b>	Newport News,	12.9.03.	"	24.10.01.	"	"
(ex } <i>California</i>	San Francisco,	23.4.04.	"	7.5.02.	"	1899
<b>PITTSBURGH</b> (ex } <i>Pennsylvania</i>	Philadelphia,	22.8.03.	"	7.8.01.	"	"
<b>WEST VIRGINIA</b>	Newport News,	18.4.03.	"	18.9.01.	"	"

L., w.l. 502 ft. B., 69.5 ft. D., 24.5 ft. Disp., 13,400 tons.  
*(Colorado and S. Dakota sheathed and coppered. B., 70 ft. Disp., 13,800 tons.)*

I.H.P. 23,000=22 kts. Coal cap., 900/2000 tons.

Engines : 2 sets 3 expans. Boilers, Babcock & Wilcox.

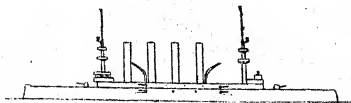
Trials : *Colorado*, I.H.P. 26,470=22.2 kts. ; *S. Dakota*, I.H.P. 28,154=22.1 kts. ; *Maryland*, I.H.P. 28,475=22.4 kts. ; *California*, I.H.P. 28,980=22.4 kts. ; *Pittsburgh*, I.H.P. 29,843=22.5 kts. ; *W. Virginia*, I.H.P. 25,778=22.1 kts.

Armour : Krupp. Complete belt, 7.5 ft. wide, 6 in. at top and 5 in. at bottom for 244 ft. amidships, 3.5 in. at ends; bulkheads, 4 in. ; lower deck side amidships, battery, and casemates, 5 in. ; turrets, 6.5 in. to 6 in. ; barbettes, 6 in. ; hoists, 3 in. ; forward C.T., 9 in. ; after C.T., 5 in. ; deck, sloping, 4 in. to 1.5 in.

Armament : 4-8 in. (45 cal.) in pairs in turrets f. and a. ; 14-6 in. (50 cal.), ten in battery, four in casemates ; 18-3 in. (14 pr.) ; 4-3 pr. ; 2-1 pr. ; 6 M. Torpedo tubes, 2-18 in. submerged, broadside.

Compt. 880.

(Full-load displacement, 14,760 tons. D. (max.), 26.5 ft.)



## CRUISERS.

## G

<b>CHARLESTON</b>	Newport News,	23.1.04.	Ld dn. 30.1.02.	Auth. 1900
<b>MILWAUKEE</b>	San Francisco,	10.9.04.	" 1902	" "
<b>ST. LOUIS</b>	Philadelphia			
	(Neafie & Levy),	26.5.05.	" 1902	" "

L., w.l. 423 ft.; o.a. 426 ft. B., 66 ft. D. (mean), 23.5 ft.  
Disp., 9700 tons.

I.H.P. 21,000=22 kts. Coal cap., 650/1500 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Trials: *Charleston*, I.H.P. 26,970=22 kts; *Milwaukee*, I.H.P. 23,836=22.2 kts.; *St. Louis*, I.H.P. 26,892=22.2 kts.

Armour: Krupp. Partial belt, 200 ft. long, 7.5 ft. wide, 4 in.; bulkheads, 3 in.; lower deck side, for 133 ft. amidships, battery and casemates, 4 in.; battery bulkheads, 3 in.; C.T., 5 in.; S.T., aft, 4 in.; screens in battery, 2 in.; deck, sloping, 3 in.; on flat, 2 in. cellulose belt.

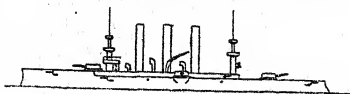
Armament: 14-6 in. (50 cal.), eight in battery, four in upper deck casemates, two in shields f. and a.; 18-3 in. (14 pr.); 12-3 pr.; 8-1 pr.; 4 M. No torpedo tubes.

Compt. 564.

(Full-load displacement, 10,825 tons. D. (max.), 25.5 ft.)

(These ships are officially classed as "protected cruisers," but are really weak armoured cruisers comparable with the British "County class.")





G

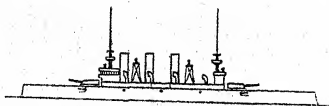
**BROOKLYN** . . . . . Philadelphia, 2.10.95. Laid down, 2.8.93

L., w.l. 400.5 ft. B., 64.7 ft. D. (mean), 24 ft. Disp., 9215 tons.  
I.H.P. 18,000=21 kts. Coal cap., 900/1461 tons.

Engines: 4 sets 3 expans. working on 2 shafts (forward engines can be disconnected). Boilers, cylindrical.

Armour: Harvey. Partial belt for 267 ft. amidships, 8 ft. wide, 3 in.; turrets and barbettes, .8 in.; fixed shields to 5 in. guns, 4 in.; C.T., 7.5 in.; deck, sloping, 6 in. amidships, 3 in. at ends; cellulose belt.

Armament: 8-8 in. (35 cal.) in pairs in turrets f. and a. and one on each beam; 12-5 in. (40 cal.); 12-6 pr.; 4-1 pr.; 5 M. No torpedo tubes. Compt. 570.



G

**SARATOGA** . . . . . Philadelphia, 2.12.91. Ld. dn. 30.9.00. Reconstd. 1908. (ex *New York*.)

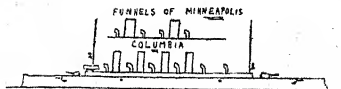
L., w.l. 384 ft. B., 64.8 ft. D. (mean), 23.3 ft. Disp., 8200 tons.  
I.H.P. 16,500=21 kts. Coal cap., 750/1290 tons.

Engines: As in *Brooklyn*. Boilers, Babcock & Wilcox (1908).

Armour: Harvey. Partial belt for 200 ft. amidships, 4 in.; turrets, 7 in. (Krupp); barbettes, 10 in.; fixed shields to 5-in. guns, 4 in.; C.T., 7 in.; deck, sloping, 6 in. amidships, 3 in. at ends; cellulose belt.

Armament: 4-8 in. (45 cal.) in pairs in turrets f. and a.; 10-5 in. (50 cal.); 8-3 in. (14 pr.); 4-3 pr.; 4 M.

Compt. 520.



## PROTECTED CRUISERS.

**I**  
**COLUMBIA** . . . . . Philadelphia, 26.7.92. Laid down, 30.12.90  
**MINNEAPOLIS** . . . . . " 12.8.93. " 16.12.91

L., w.l. 412 ft.; o.a. 416 ft. B., 58.1 ft. D. (mean), 22.5 ft.;  
 (max.), 25.6 ft. Disp., 7375 tons.

I.H.P. 21,500=23 kts. Coal cap., 750/1600 tons.

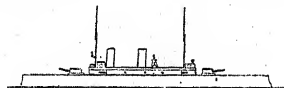
Engines: 3 sets 3 expans. Boilers, cylindrical.

Trials: *Columbia*, I.H.P. 18,509=22.8 kts.; *Minneapolis*, I.H.P.  
 20,862=23 kts.

Armour: Deck, 4 in. on slopes, 2.5 in. on flat; C.T., 5 in.

Armament: 3-6 in. (45 cal.), 2 forward, 1 aft; 8-4 in. (40 cal.);  
 2-6 pr. No torpedo tubes.

Compt. 440.



**I**  
**OLYMPIA** . . . . . San Francisco, 5.11.92. Laid down, 6.91

L., w.l. 340 ft. B., 53 ft. D. (mean), 21.5 ft. Disp., 5370 tons.

I.H.P. 17,000=21 kts. Coal cap., 400/1170 tons.

Engines: 2 sets 3 expans. Boilers, cylindrical.

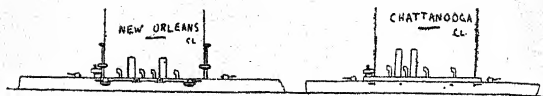
Trials: I.H.P. 17,313=21.6 kts.

Armour: Turrets, 3.5 in.; barbettes, 4.5 in.; fixed shields to  
 5-in. guns, 4 in.; forward and after C.T., 5 in.; deck, 4.7  
 in. on slopes, 2 in. on flat; cellulose belt.

Armament: 2-7 in. (50 cal.) in turrets f. and a.; 10-5 in. (50  
 cal.) in sponsons on superstructure; 14-6 pr.; 4-1 pr.; 2  
 M. No torpedo tubes.

Compt. 450.

(Mother Ship for Reserve Torpedo Craft.)



- NEW ORLEANS** . . . Elswick, 4.12.96. Bought, 1898. (ex Brazilian *Amazonas*.)  
**ALBANY** . . . Elswick, 14.1.99. Bought, 1898. (ex Brazilian *Almirante Abreu*.)

L., p.p. 330 ft. ; w.l. 346 ft. ; o.a. 358 ft. B., 43.7 ft. D. (mean), 18 ft. Disp., 3450 tons.

I.H.P. 7500=20 kts. Coal cap., 516/760 tons.

Engines : 2 sets 3 expans. *New Orleans* by Humphrys, Tennant, & Co. ; *Albany* by Hawthorn, Leslie, & Co. Boilers, cylindrical.

Armour : Deck, 3 in. on slopes, 1.2 in. on flat ; C.T., 4 in.

Armament : 10-5 (50 cal.) ; 10-3 pr. ; 2-1 pr. ; 2 M.

Compt. 350.

- |                      |                              |          |                 |
|----------------------|------------------------------|----------|-----------------|
| <b>CHATTANOOGA</b> . | Elizabeth Port,              | 7.3.08.  | Ld. dn. 29.3.00 |
| <b>CLEVELAND</b> .   | Bath Ironworks,              | 28.9.01. | „ 1.1.00        |
| <b>DENVER</b> . . .  | Philadelphia, Neafie & Levy, | 21.6.02. | „ 28.6.00       |
| <b>DES MOINES</b> .  | Fore River Co.,              | 20.9.02. | „ 28.8.00       |
| <b>GALVESTON</b> .   | Richmond,                    | 23.7.03. | „ 19.1.00       |
| <b>TACOMA</b> . . .  | San Francisco,               | 2.6.03.  | „ 27.9.00       |

L., w.l. 292 ft. ; o.a. 309 ft. B., 44 ft. D. (mean), 15.7 ft. Disp., 3200 tons.

I.H.P. 4700=16.5 kts. Coal cap., 467/700 tons.

Engines : 2 sets 3 expans. Boilers, Babcock & Wilcox.

Armour : Deck, 2 in. to 1 in. on slopes, .5 in. on flat.

Armament : 10-5 in. (50 cal.) ; 8-6 pr. ; 2-1 pr. ; 4 M.

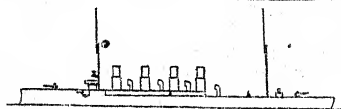
Compt. 300.

These ships are sheathed and coppered.

(Full-load displacement, 3525 tons. D. (max.), 17.2 ft.)



**CINCINNATI** . . . . . Brooklyn, 10.11.92. Laid down, 29.1.90  
**RALEIGH** . . . . . Norfolk, 31.3.92. " 19.12.89  
 L., w.l. 300 ft. B., 42 ft. D. (mean), 18 ft. Disp., 3213 tons.  
 I.H.P. 8000=18 kts. Coal cap., 380/577 tons.  
 Engines: 2 sets 3 expans. (1900). Boilers, Babcock & Wilcox.  
 Armour: Deck, 2.5 in. to 1 in.; C.T., 2 in.  
 Armament: 11-5 in. (50 cal.); 8-6 pr.; 2-1 pr.; 2 M.  
 Compt. 339 and 313 respectively.



## SCOUTS.

**K**  
**CHESTER** . . . . . Bath Ironworks, 27.6.07. Authorised, 1905  
**SALEM** . . . . . Fore River Co., 27.7.07. " "  
**BIRMINGHAM** . . . . . " 29.5.07. " "  
 L., w.l. 420 ft.; o.a. 423.2 ft. B., 46.7 ft. D. (mean), 16.8 ft.  
 Disp., 3750 tons.  
 I.H.P. 16,000=24 kts. Coal cap., 475/1250 tons.  
 Engines: *Chester*, Parsons turbines (4 screws); *Salem*, Curtis  
 turbines (2 screws); *Birmingham*, 2 sets 3 expans. Boilers:  
*Chester*, Express; *Salem*, Babcock & Wilcox; *Birmingham*,  
 Niclausse.  
 Trials: *Chester*, I.H.P. 22,200=26.5 kts.; *Salem*, I.H.P.  
 19,200=25.9 kts.; *Birmingham*, I.H.P. 15,540=24.3 kts.  
 Armour: Partial belt over boilers and engines, 2 in.; bulkheads,  
 1.5 in.; deck, 2 in. to 1.5 in.  
 Armament: 2-5 in. (50 cal.); 6-3 in. (14 pr.); 2-3 pr.  
 Torpedo tubes, 2-21 in. submerged, broadside.  
 Compt. 356.  
 (Full-load draught 19 ft. (max.). Disp., 4640 tons.)

## DESTROYERS.

Name.	Date.	Builder.	Length.	Beam.	Tonnage.	Disp.	I.H.P.	Speed.	Engines.	Boilers.	Armament.	Fuel.	Compt.
M #			ft.	ft.	ft.	tns.		kts.				tns.	
Tucker	bdg.	F	310	..	9.2	1090	..	..	..	..	..	..	..
Jacob Jones	bdg.	C											
Wainwright	bdg.	B											
Porter	bdg.	P											
Conyngham	bdg.	P											
Wadsworth	bdg.	P	300	30.4	9.2	1040	16,000	29.5	Z	E	4-4 in.; 8-18 in. tubes.	300	98
Cushing	bdg.	F											
Ericsson	bdg.	C											
McDougal	bdg.	B											
Nicholson	bdg.	P											
O'Brien	bdg.	P											
Winslow	bdg.	P											
Aylwin	'13	P											
Baich	'13	P											
Benham	'13	P											
Parker	'13	P											
Cassin	'18	B											
Cummings	'13	B											
Downes	'13	C											
Duncan	'13	F											
M													
Beale	'11	P	288.7	26.2	8.3	742	12,000	33.4	P	..	5-14 pr.; 6-18 in. tubes.	210	86
Fanning	'11	P											
Henley	'11	F											
Jarvis	'11	C											
Jenkins	'11	B											
Jouett	'11	B											
Ammen	'10	C											
Burrows	'10	C											
McCall	'10	C											
Tripp	'10	B											
Drayton	'10	B											
Paulding	'10	B											
Patterson	'11	P											
Mayrant	'10	P											
Warrington	'10	P											
Monaghan	'11	N											
Roe	'09	N											
Terry	'09	N											
Walke	'10	F											
Perkins	'10	F											
Sterett	'10	F											

NOTES.—All boats on this page have turbine engines; Z=Zoelly; P=Parsons; C=Curtis. The 1000-ton class have also reciprocating engines for cruising. All burn oil only.

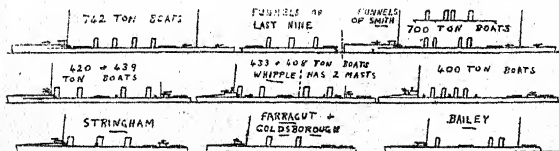
## Destroyers—(continued).

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
M			ft.	ft.	ft.	tns.		kts.			tns.	
Smith . . .	'09	P	288.7	26	8	700	10,000	29.5	M	5-14 pr.; 3-18 in. tubes.	285	87
Lamson . . .	'09	P						28.6	M		285	87
Preston . . .	'09	C						29.2	T		270	87
Flusser . . .	'09	B						28.6	Z		285	87
Reid . . .	'09	B						24.5	Z		238	87
<b>N</b>												
Bainbridge .	'01	L	245	23	6.5	420	8000	28.7	T	2-14 pr.; 5-6 pr.; 2-18 in. tubes.	139	78
Barry . . .	'02	L						28.1	T		139	78
Chauncey . .	'01	L						28.6	T		139	78
Dale . . .	'00	R						28.0	T		139	78
Decatur . . .	'00	R						28.1	T		139	78
Paul Jones .	'01	U	244	23.2	6	408	8000	28.9	T	7-6 pr.; 2-18 in. tubes.	168	78
Perry . . .	'01	U						28.3	T		168	78
Prebble . . .	'01	U						28.0	T		168	78
Stewart . . .	'02	G						29.6	S		177	78
Truxtun . . .	'01	M						29.5	T		177	78
Whipple . . .	'02	M	248	22.3	6	433	8300	28.2	T	4-6 pr.; 2-18 in. tubes.	177	78
Worden . . .	'02	M						29.8	T		177	78
Hopkins . . .	'01	H	244	23.2	6	408	8000	23.0	T		165	78
Hull . . .	'02	H	244	23.2	6	408	8000	23.0	T		165	78
Lawrence . .	'01	F	242	22.3	6	400	8400	28.4	F		123	78
Macdonough .	'02	F	242	22.3	6	400	8400	28.0	F		123	78
Stringham . .	'09	H	225	21.2	6.5	340	7200	25.3	T	4-6 pr.; 2-18 in. tubes.	96	58
Farragut . . .	'09	U	218.5	20.6	6	273	5600	30.1	T		95	59
Goldsborough .	'09	W	194.6	20.4	5	247	6000	27.4	S		89	60
Bailey . . .	'09	G	205	19	6	235	5600	30.2	S		99	58

NOTES.—Smith class have Parsons turbine engines, others reciprocating.

All burn coal. The last four are officially classed as torpedo boats.

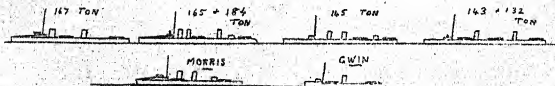
Builders: B=Bath Ironworks; C=New York Shipbuilding Co., Camden, N.J.; F=Fore River Co.; G=Gas Engine and Power Co.; H=Harlan & Hollingsworth; L=Neafe & Levy; M=Maryland Steel Co.; N=Newport News; P=Cramp, Philadelphia; R=Trigg, Richmond; U=Union Ironworks; W=Wolff & Zwicklen, Portland, Oregon. Boilers: E=Express; F=Fore River Co.; M=Mosher; N=Normand; S=Seabury; T=Thornycroft; W=White; Y=Yarrow.



## TORPEDO BOATS.

Name.	Date.	Builder.	Length.	Beam.	Draught.	Disp.	I.H.P.	Speed.	Boilers.	Armament.	Coal.	Compt.
<b>O</b>			ft.	ft.	ft.	tns.		kts.			tns.	
Bagley . . .	'00	B	157	17	4.6	167	4200	30.2	N	3-3 pr.	18 in. torpedo tubes	43 29
Barney . . .	'00	B						29.0	N	3-3 pr.		43 29
Biddle . . .	'01	B						28.6	N	3-3 pr.		43 29
Shubrick . .	'99	R						26.0	T	3-3 pr.		40 29
Stockton . .	'99	R	175	17	4.6	165	3000	25.7	P	3-3 pr.	18 in. torpedo tubes	40 29
Thornton . .	'00	R						25.5	T	3-3 pr.		40 29
De Long . . .	'00	L						25.4	T	3-3 pr.		40 29
Blakely . . .	'00	L						25.6	T	3-3 pr.		40 29
Wilkes . . .	'01	I	175	17.6	4.6	165	3400	25.9	S	3-3 pr.	18 in. torpedo tubes	40 29
Tingey . . .	'02	I						24.9	T	3-3 pr.		40 29
Dupont . . .	'96	X						28.5	M	3-1 pr.		60 32
Dahlgren . .	'96	B						30	N	4-1 pr.		32 30
Craven . . .	'96	R	147	16.4	4.6	145	4200	30	N	4-1 pr.		32 30
Rodgers . . .	'95	I	160	16	5	143	2000	24.5	M	3-1 pr.		44 26
Foote . . .	'95	I	160	16	5	143	2000	24.5	M	3-1 pr.		44 26
Davis . . .	'96	W	146	14.5	5.6	184	1750	23.4	T	3-1 pr.		40 24
Fox . . .	'96	W	146	14.5	5.6	132	1750	23.1	T	3-1 pr.		40 24
Morris . . .	'96	X	139	15	4.1	132	1750	24.0	D	3-1 pr.		20 28
<b>P</b>												
Mackenzie . .	'96	Z	99.2	12.7	4.2	65	850	20.1	T	{ 1-1 pr.; 2 tubes }	15	16
Gwin . . .	'96	X	100	12	3.2	46	850	20.8	D	1 tube	9	16
Manly . . .	'98	Y	60.6	9.4	2.9	30	250	17	Y	..	..	..

NOTES.—Builders, as for Destroyers, also L=Lawley, Boston; I=Columbian Ironworks; X=Herreshoff; K=Moran Bros.; D=Dubuque Co.; Z=Hillman & Sons. Boilers, do., also D=Du Temple.



## SUBMARINES.

Official Number.	Date.	Builder.	Length.	Beam.	Disp. above and below.	I.H.P. above and below.	Speed above and below.	Tubes.
G			ft.	ft.	tons.		kts.	
4 boats . . .	bdg.	..	..	..	—/—	—/—	—/—	..
1. M1 . . .	bdg.	E	..	..	—/740	—/—	—/—	..
3. L5-7 . . .	bdg.	L	..	..	—/575	—/—	—/—	..
4. L1-4 . . .	bdg.	E	..	..	—/—	—/—	—/—	..
8. K1-8 . . .	'13/'14	E	147.5	15.5	390/520	950/	14.5/10.5	4
3. H1-3 . . .	'12	E	..	..	350/430	800/	14/11	4
1. G4 . . .	'12	C	157	17	358/458	1000/	15/9	4
3. G1-3 . . .	'11/'12	L	161	13	400/525	1200/	14/9.5	6
4. F1-4 . . .	'11/'12	E	142	..	350/440	800/	14/11	4
2. E1-2 . . .	'11	E	140	..	350/430	800/	14/11	4
3. D1-3 . . .	'09/'10	E	133	15	278/340	600/	12/10	4
5. C1-5 . . .	'08/'09	E	106	15	236/274	500/	10/9	2
3. B1-3 . . .	'07	E	82	12.7	170/190	250/	9.5/8.5	1
6. A2-7 . . .	'08	H	63.3	11.8	105/120	160/70	8.5/7	1

Builders: E=Electric Boat Co.; L=Lake Co.; C=Laurenti (Cramp's); H=Holland Co.

## GUNBOATS.

R

SACRAMENTO . . . . . Philadelphia, bdg. Auth. 1911

Length, 210 ft. Beam, 40.8 ft. Draught (mean), 11.5 ft.  
Disp., 1425 tons.

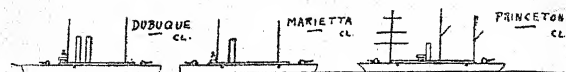
I.H.P. 950=12 kts. Coal cap., 414 tons.

Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.

Armament: 3-4 in.; 2-3 pr.

Compt. 158.



**R**

**DUBUQUE** . . . . Gas Engine and Power Co. 15.S.04. Composite  
**PADUCAH** . . . . " " 11.10.04. "

L., w.l. 174 ft. B., 35 ft. D. (mean), 13.5 ft. Disp., 1085 tons.  
 I.H.P. 1000=12.5 kts. Coal cap., 100/200 tons.  
 Engines: 2 sets 3 expans. Boilers, Babcock & Wilcox.  
 Armament: 6-4 in. (40 cal.); 4-6 pr.; 2-1 pr.; 2 M.  
 Compt. 160.

**R**

**MARIETTA** . . . . San Francisco, 18.2.97. Composite  
**WHEELING** . . . . " 18.3.97. "

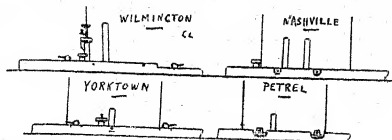
L., w.l. 174 ft.; o.a. 189.6 ft. B., 34 ft. D. (mean), 12 ft.  
 Disp., 1000 tons.  
 I.H.P. 1250=13 kts. Coal cap., 120/241 tons.  
 Engines: 2 sets 3 expans. Boilers: *Marietta*, Babcock &  
 Wilcox; *Wheeling*, cylindrical.  
 Armament: 6-4 in. (40 cal.); 4-6 pr.; 2-1 pr.; 2 M.  
 Compt. 160.

**R**

**PRINCETON** . . . . New York Co., 3.6.97. Composite, coppered  
**NEWPORT** . . . . Bath Ironworks, 5.12.96. " "  
**VICKSBURG** . . . . " " 5.12.96. " "  
**ANNAPOLIS** . . . . Elizabethport, 23.12.96. " "

L., w.l. 168 ft.; o.a. 204 ft. B., 36 ft. D. (mean), 12 ft.  
 Disp., 1000 tons.  
 I.H.P. 800=12 kts. Coal cap., 100/240 tons.  
 Engines: 1 set 3 expans. (Single screw). Boilers: *Annapolis*,  
 Babcock & Wilcox, others cylindrical.  
 Armament: 6-4 in. (40 cal.); 4-6 pr.; 2-1 pr.; 1 M.  
 Compt. 135.

(*Newport* is serving as a training ship at New York and  
 has no guns. *Annapolis* has no 4 in. at present.)



**R WILMINGTON** . . . Newport News, 19.10.95. Laid down, 8.10.94  
**HELENA** . . . . . " " 30.1.96. " 11.10.94  
 L., w.l. 250.7 ft. B., 40 ft. D. (mean), 9 ft. Disp., 1397 tons.  
 I.H.P. 1600=13 kts. (15 kts. on trial). Coal cap., 100/300 tons.  
 Engines: 2 sets 3 expans. Boilers, cylindrical.  
 Armour: Belt amidships, 1 in.; gun positions, 2 in. to 1 in.  
 Armament: 8-4 in.; 4-6 pr.; 4-1 pr.; 2 M.  
 Compt. 170.

**R NASHVILLE** . . . Newport News, 19.10.95. Laid down, 9.8.94  
 L., w.l. 220 ft. B., 38.1 ft. D. (mean), 11 ft. Disp., 1371 tons.  
 I.H.P. 2536=16.3 kts. Coal cap., 363 tons.  
 Engines: 2 sets 4 expans. Boilers, Mosher.  
 Armour: 4 in. gun sponsons, 2.2 in.  
 Armament: 8-4 in. (40 cal.); 4-6 pr.; 2-1 pr. Compt. 182.

**R YORKTOWN** . . . Philadelphia, 28.4.88. Laid down, 14.5.87  
 L., w.l. 230 ft. B., 36 ft. D. (mean), 14 ft. Disp., 1710 tons.  
 I.H.P. 3400=17 kts. Coal cap., 200/380 tons.  
 Engines: 2 sets horiz. 3 expans. Boilers, cylindrical.  
 Armour: Deck, 4 in.; C.T., 2 in.  
 Armament: 6-6 in. (old); 2-6 pr.; 2-3 pr.; 4-1 pr.; 2 M.  
 Compt. 195.

**R PETREL** . . . . . Baltimore, 13.10.88. Laid down, 27.8.87  
 L., w.l. 176.2 ft. B., 31 ft. D. (mean), 11.6 ft. Disp., 892 tons.  
 I.H.P. 1000=11.5 kts. Coal cap., 100/200 tons.  
 Engines: 1 set horiz. Compound. Boilers, cylindrical.  
 Armour: Deck, 3 in.; gun positions, 1 in.  
 Armament: 4-4 in. (40 cal.); 2-3 pr.; 2-1 pr.; 2 M.  
 Compt. 132.

**V ROMBLON, BOBOL, CEBU, JOLO, MARIE DUQUE**

Built by Uraga Dock Co., Japan, 1902-3. Composite

L., 140 ft. B., 23 ft. D., 8 ft. Disp., 350 tons.

I.H.P. 450=10 kts. Armament: 3 small guns.

(War Dept.—In the Philippines.)

**V 2 small Launches built at Shanghai**

L., 70 ft. D., 3 ft. Armament: 1-1 pr.; 2 M.

(War Dept.—In the Philippines.)

**V MONOCACY . . . . . Mare Island. Building****PALOS . . . . . " "**

L., 160 ft. B., 24.5 ft. D. (max.), 2.3 ft. Disp., 190 tons.

I.H.P. 800=13 kts. Carry 13 tons of wood. Boilers, Babcock &amp; Wilcox.

Armament: 2-6 pr.; 6 M. Compt. 105.

**SMALL GUNBOATS TAKEN OR BOUGHT FROM SPAIN.**

Name. RV	Date.	Material.	Screws.	Length. ft.	Beam. ft.	Draught. ft.	Disp. tns.	I.H.P.	Speed. kts.	Armament.
Callao .	'88	S	2	119	17½	6½	203	250	9.7	4-3 pr.; 2-1 pr.
El Cano .	'85	I	2	158	26	8½	560	600	10	4-4 in.; 4-3 pr.
Pampanga	'87	S	2	114	17½	6	201	250	10	4-3 pr.; 2-1 pr.
Panay .	'85	W	2	..	..	..	145	125	10	1-3 pr.; 2-1 pr.
Quiros .	'95	C	1	145	22½	..	350	550	13	4-3 pr.
Samar .	'87	I	2	114	18	8	210	250	10	4-3 pr.; 2-1 pr.
Villalobos.	'96	C	1	145	22½	..	347	500	12	4-3 pr.; 2-1 pr.
<b>CONVERTED YACHTS.</b>										
Eagle .	'90	S	1	155½	24	11½	434	850	15½	2-6 pr.
Mayflower	'96	S	2	273	36	17½	2690	4700	16½	6-6 pr.
Scorpion .	'96	S	2	210½	28	11½	850	2800	17½	4-6 pr.
Sylph .	'98	S	1	123½	20	7½	152	550	15	1-6 pr.

*Mayflower* and *Sylph* are presidential yachts. *Scorpion* is at Constantinople. *Eagle* is used for surveying service.

## SHIPS ATTACHED TO NAVAL MILITIA.

Name.	Date.	Class.	Disp.	Speed.	Armament.	State.
I Chicago	'85	Cruiser	5000	18	4-8 in.; 14-5 in.; 2-4 in.; 9-6 pr.; 2-3 pr.; 2-1 pr.; 2 M.	Massachusetts
O Rodgers	'95	Torp. boat	see page	412.		Massachusetts
R Isla de Luzon	'86	Gunboat	1125	14	4-4 in.; 4-6 pr.; 4 M.	Louisiana
X Stranger	'80	Yacht	369	14	2-3 pr.	Louisiana
U Amphitrite	'83	Monitor	3990	14	4-10 in.; 2-4 in.; 2-6 pr.; 2-3 pr.; 2-1 pr.	Louisiana
O Somers	'98	Torp. Boat	145	17	4-1 pr.; 3 tubes	Maryland
X Wasp	'98	Yacht	630	16	2-6 pr.; 2 M.	New York
X Hawk	'91	Yacht	375	14	Nil.	New York
W Sandoval	'95	Gunboat	100	8	2-2 pr.; 1-1 pr.	New York
Z Granite State	'..	Hulk	4150	..	1-4 in.	New York
X Gloucester	'91	Yacht	786	17	2-3 pr.; 4-1 pr.	New York
X Sylvia	'82	Yacht	302	9	Nil.	Pennsylvania
X Wolverine	'..	Paddle Sr.	685	10.5	6-6 pr.; 2-1 pr.	Pennsylvania
X Machias	'91	Gunboat	1177	14	8-4 in.; 4-6 pr.; 2-1 pr.; 1 M.	Connecticut
J Marblehead	'92	Cruiser	2089	18	8-5 in.; 2-4 in.; 4-6 pr.; 2-3 pr.; 2-1 pr.	California
X Vixen	'96	Yacht	806	16	4-6 pr.; 2-1 pr.; 2 M.	New Jersey
R Marietta	'97	Gunboat	see page	414.		New Jersey
R Essex	'74	Gunboat	1375	10	6-4 in.; 4-6 pr.; 2-1 pr.; 2 M.	Ohio
X Dorothea	'97	Yacht	594	15	6-6 pr.; 4 M.	Ohio
R Don Juan de Austria	'87	Gunboat	1150	14	6-3 in.; 4-6 pr.; 4 M.	Michigan
X Yantic	'64	Sailing Ship	900	..	Nil.	Michigan
X Gopher	'71	Wooden	846	..	Nil.	Minnesota
X Dubuque	'04	Gunboat	see page	414.		Illinois
R Concord	'90	Gunboat	1710	17	3-6 in.; 1-4 in.; 4-3 pr.	Washington
I Boston	'84	Cruiser	3000	15	2-8 in.; 3-6 in.	Oregon
X Alleen	'96	Yacht	102	14	1-4 in.; 6-6 pr.	Rhode Island
X Elfrida	'99	Yacht	164	10	1-3 pr.; 2-1 pr.; 1-6 pr.	North Carolina
O Foote	'95	Torp. boat	see page	412.		North Carolina
X Huntress	'95	Yacht	82	14	2-3 pr.	Missouri
O Mackenzie	'96	Torp. boat	see page	412.		Florida

NOTES. — *Sandoval, Hawk, Essex, Dorothea, Don Juan de Austria, Yantic, Gopher, and Dubuque* are on the Great Lakes.

## FLEET FUEL SHIPS.

W KANAWHA . . . bdg. MAUMEE . . . bdg.

L., 455 ft. B., 56 ft. D. (mean), 26.3 ft. Disp., 14,500 tons.  
I.H.P. 5200=14 kts. Oil cap. (bunkers), 1568 tons. Compt. 150.  
Carry 7554 tons of oil.

## W

JASON . 1913 NEREUS . 1913 ORION . 1912 PROTEUS . 1912  
NEPTUNE 1911 JUPITER . 1911 CYCLOPS 1910

L., 518.4 ft. B., 65.6 ft. D., 27.9 ft. Disp., 19,360 tons.  
I.H.P. 7200=14 kts. Coal cap. (bunkers), 2043 tons.

Neptune has Westinghouse geared turbines. Compt. 94.  
Carry 12,500 tons of coal and 1000 tons of oil.

W VULCAN . . 1909 MARS . . 1909 HECTOR . . 1909

L., 383.9 ft. B., 52.5 ft. D., 24.5 ft. Disp., 11,200 tons.  
I.H.P. 3800=12 kts. Coal cap. (bunkers), 812 tons. Compt. 73.  
Carry 8128 tons of coal.

Name. X	Date.	Speed, Loaded.	Disp.	Bunker Coal.	Cargo Coal.	Arma- ment.
Abarenda .	'92	kts. 9	tons 4,670	tons 712	tons 3843	4-3 pr; 4 M.
Ajax .	'90	12	7,500	500	4550	1-6 pr.
Arethusa .	'93	10	6,200	...	...	...
Brutus .	'94	10	6,600	800	4500	2-6 pr.
Cæsar .	'96	10	5,016	381	3740	2-3 pr.; 2-1 pr.
Justin .	'91	8 $\frac{1}{2}$	3,300	167	2900	1-6 pr.
Leonidas .	'98	8 $\frac{1}{2}$	4,242	550	2050	1-6 pr.
Nanshan .	'96	10 $\frac{1}{2}$	4,950	400	2900	...
Nero .	'95	9	4,925	300	3500	1-6 pr.
Saturn .	'90	11	6,220	335	2400	1-6 pr.
Sterling .	'81	11	5,633	500	2550	1-6 pr.

## FLEET REPAIR SHIPS.

**W VESTAL** . 1908 (ex *Erie*)    **PROMETHEUS** . 1909 (ex *Ontario*)

L., 450 ft. B., 60 ft. D., 26 ft. Disp., 12,500 tons.

I.H.P. 7000=16 kts. Coal cap. (bunkers), 1576 tons.

Armament: 4-3 in. (14 pr.). Compt. 92.

## WAR DEPARTMENT VESSELS.

## Y

TRANSPORTS: Buford, Crook, Dix, Kilpatrick, Liscum, Logan, McClellan, Meade, Merriott, Sheridan, Sherman, Sumner, Thomas, Warren, Wright.

CABLE SHIPS: Burnside, Joseph-Henry.

MINE PLANTERS: Gen. J. M. Schofield, Gen. E. O. C. Ord, Gen. R. T. Frank, Gen. S. M. Mills, Col. G. Armistead, Maj. S. Ringgold, Gen. H. J. Hunt, Gen. H. Knox.

## VESSELS OF THE REVENUE CUTTER SERVICE.

## X

Acushnet	Itasca, ex Ban-	Seneca
Algonquin	croft	Snohomish
Androscoggin	Mackinac	Tahoma
Apache	Manhattan	Thetis
Arcata	Manning	Tuscarora
Bear	M'Culloch	Unalga
Calumet	Miami	Winnisimmet
Davey	Mohawk	Windom
Forward	Morrill	Winona
Golden Gate	Onondaga	Wissahickon
Gresham	Pamlico	Woodbury
Hartley	Rush	Yamacraw
Hudson	Seminole	

## TUGS.

Y	Name.	Date.	Material.	Disp.	I.H.P.	Speed.
				tons.		kts.
	Accomac . . . . .	'91	I	187	250	10
	Active . . . . .	'88	S	296	600	12
	Alice . . . . .	'93	W	356	250	10
	Apache . . . . .	'89	W	650	550	10
	Choctaw . . . . .	'92	I	350	188	10
	Fortune <sup>1</sup> . . . . .	'05	I	450	340	10
	Hercules . . . . .	'88	I	198	..	12
	Iroquois . . . . .	'92	S	702	1000	13½
	Iwana . . . . .	'91	S	192	300	11½
	Massasoit . . . . .	'98	S	202	..	..
	Modoc . . . . .	'90	I	241	..	10
	Mohawk . . . . .	'93	S	420	400	12
	Narkeeta . . . . .	'91	S	192	300	11½
	Navajo . . . . .	..	S	800	..	..
	Ontario . . . . .	'12	S	1080	1596	13
	Osceola . . . . .	'96	S	571	..	14
	Patapsco <sup>2</sup> . . . . .	'09	S	755	1160	13
	Patuxent <sup>2</sup> . . . . .	'09	S	755	1160	13
	Pawnee . . . . .	'96	W	275	250	10
	Pawtucket . . . . .	'98	S	225	450	12
	Penacook . . . . .	'98	S	220	450	12
	Pentucket . . . . .	'04	S	230	450	12
	Peoria <sup>3</sup> . . . . .	'94	S	487	270	9
	Piscataqua <sup>4</sup> . . . . .	'97	S	854	2000	16
	Pontiac . . . . .	'91	..	401	425	10½
	Potomac . . . . .	'97	S	785	2000	16
	Powhatan . . . . .	'92	S	194	397	13
	Rapido . . . . .	..	I	100	70	..
	Rocket . . . . .	'03	S	270	450	..
	Samoset . . . . .	'95	S	225	450	12
	Sabago . . . . .	'93	S	155	..	12
	Sioux . . . . .	'92	I	155	290	10
	Sonoma . . . . .	'12	S	1030	1596	13
	Sotoyomo . . . . .	'04	S	230	450	12
	Standish . . . . .	'65	I	450	340	10
	Tecumseh . . . . .	'96	S	214	500	11
	Traffic . . . . .	'91	W	280	..	10
	Transfer . . . . .	'04	S	684	..	..
	Triton . . . . .	'88	S	212	300	13
	Unadilla . . . . .	'95	S	345	500	12
	Uncas . . . . .	'93	S	441	750	12
	Vigilant . . . . .	'83	..	300	450	12
	Waban . . . . .	'80	I	150	..	..
	Wahneta . . . . .	'91	S	192	300	11½
	Wompatuck . . . . .	'96	S	462	650	13

1 5 small Q., 1 mach.; submarine tender.

2 2-3 pr.

3 4-3 pr.

4 3-3 pr.

## SPECIAL SERVICE.

Name.	Date.	Service.	Disp.	Speed.	Armament.
<b>W X</b>					
— . . . .	pro.	Transport	tns.	kts.	
— . . . .	pro.	Supply Ship	..	..	..
Celtic . . . .	1891	Refrigerator Ship	8000	10.5	2-6 pr. ..
Glacier . . . .	1891	Refrigerator Ship	7000	12.5	..
Culgoa . . . .	1889	Refrigerator Ship	6500	13.5	4-1 pr. ..
Supply . . . .	1873	Station Ship, Guam	4460	9.5	6-6 pr.; 4-1 pr.
Rainbow . . . .	1890	Distilling Ship	6206	12	6-6 pr.; 6-1 pr.; 2 M.
Iris . . . .	1885	Torpedo Tender	6100	10	..
Panther . . . .	1884	Repair Ship	4260	13	2-6 pr. ..
Solace . . . .	1896	Hospital Ship	4700	15	..
Relief . . . .	1903	Hospital Ship	3000	13	..
Hancock . . . .	1879	Transport	8500	14	2-6 pr. ..
General Olaya . . . .	1910	Transport	1115	10	2-6 pr. ..
Buffalo . . . .	1893	Transport	6900	14.5	2-5 in.; 4-4 in.; 6-6 pr.; 2 M.
Prairie . . . .	1890	Transport	6872	14.5	10-3 in.; 4-3 pr.; 2 M.
Dixie . . . .	1893	Destroyer Depot	6150	16	10-3 in.; 2-6 pr.; 2 M.
Melville . . . .	bdg.	Destroyer Depot	6300	14	8-5 in. ..
Yankton . . . .	1893	Tender	975	14	4-3 in. ..
Fulton . . . .	bdg.	Submarine Depot	1408	12	4-3 in. ..
Bushnell . . . .	bdg.	Submarine Depot	3600	14	4-5 in. ..
Castine . . . .	1892	Gunboat	1177	14.5	2-6 pr. ..
Alert . . . .	1875	Submarine Depot	1110	10	..
Mohican . . . .	1873	Submarine Depot	1900	10	..
San Francisco . . . .	1889	Mine Layer	4058	19	8-5 in. ..
Dolphin . . . .	1884	Despatch Boat	1485	15.5	2-4 in.; 2-6 pr.; 6-3 pr.; 2 M.
Montgomery . . . .	1891	Cruiser	2089	18	..
Vesuvius . . . .	1888	Torpedo Experiments	929	21	1-3 pr.; 4 tubes
Cumberland . . . .	1904	Station Ship, Guanta- nomo	1800	Sail	6-4 in. ..
Intrepid . . . .	1904	Training Ship	1800	Sail	6-4 in. ..
Severn . . . .	1899	Submarine Tender	1175	Sail	..
Boxer . . . .	1904	Training Ship	350	Sail	..
Lebanon . . . .	1894	Ammunition Ship	3375	10	..
Hannibal . . . .	1898	Surveying Ship	4201	9	1-6 pr. ..
Pompey . . . .	1897	Torpedo Tender	3085	10.5	1-6 pr. ..
Baltimore . . . .	1888	Mine Transport	4535	20	..



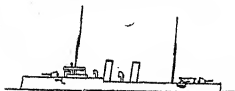
## RESERVED MERCHANT CRUISERS.

Name.	Built.	Tons.	H.P.	Speed.	Length.	Beam.	Draught.	Funnels.	Masts.
<b>T</b>									
New York . .	'88	10,803	20,000	kts. 20	ft. 527	ft. 63	ft. 22	3	3
Philadelphia . .	'89	10,803	20,000	20	527	63	22	2	3
St. Louis . .	'95	11,629	18,600	20	535	63	26	2	2
St. Paul . .	'95	11,629	18,600	20	535	63	26	2	2
Korea . .	'01	11,300	18,000	18	550	63	30	2	2
Siberia . .	'01	11,300	18,000	18	550	63	30	2	2

## VARIOUS.

Name.	Date.	Service.	Disp.	Speed.	Armament.
<b>X Z</b>					
Hartford . .	1857	Station Ship, Charleston S.C.	tns. 2790	kts. 12	13-5 in.; 8-6 pr.; 4-1 pr.
Adams . .	1874	Training Ship	1375	10	6-4 in.; 4-6 pr.; 2-1 pr.
Essex . .	1874	Training Ship	1375	10	6-4 in.; 4-6 pr.; 2-1 pr.
Constellation .	1854	Hulk	1970	..	6-6 pr.; 4-1 pr.; 2 M.
Reina Mercedes	1887	Hulk	3090	..	..
Philadelphia .	1889	Receiving Ship	4410	..	..
Franklin . .	1865	Receiving Ship	5170	..	..
Richmond . .	1858	Tender	2700	..	..
Constitution .	1797	Hulk	2200	..	..
Topeka . .	1881	Prison Ship	2375	..	..
Southery . .	1889	Prison Ship	3100	9	..
Lancaster . .	..	Wooden Cruiser	3250	9	..
Omaha . .	..	Public Health	2400	..	..
Portsmouth .	1843	Hulk	1125	..	..

## URUGUAY



## SCOUT.

**K**      **URUGUAY** . . . . . Stettin, 12.4.10

L., 275 ft. B., 30.7 ft. D., 10.3 ft. Disp., 1132 tons.

I.H.P. 5630=23 kts Coal cap., 215 tons. Boilers, Normand.

Armament: 2-4.7 in. (45 cal.); 4-3 in. (12 pr.); 6-1 pr.; 6

M. Torpedo tubes, 2-18 in. above water.

Compt. 120.

## GUNBOATS.

**R**      **GENERAL ARTIGAS** . . . . . Trieste, 1883

L., 128 ft. B., 20 ft. D. (mean), 8.5 ft. Disp., 380 tons.

I.H.P. 450=12 kts. Armament: 2-4.7 in. (old); 2 M.

**R**      **GENERAL SUAREZ**

L., 141.2 ft. D., 22 ft. D. (mean), 9.5 ft. Disp., 388 tons.

I.H.P. 360=9.5 kts. Armament: 4-2.9 in. (old); 4 M.

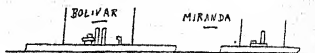
**R**      **18 DE JULIO**      Disp., 668 tons.

Armament: 4 small guns; 2 M.

**X**

DISPATCH BOAT: **Malvinas**, 400 tons. TRANSPORT: **General Flores**, 260 tons. HARBOUR SERVICE VESSELS: **Vigilante**, **Resguardo**, **Guarda**, **Chapicui**, **Coronel**, **Yaaguari**, **General Lavalleja**, **Rayo**, **Presidente Vija**, **Tangarupa**, **Zufriategui**.

## VENEZUELA



## GUNBOATS

**R MARESCAL SUCRE** . . (ex *Isla de Cuba*). Elswick, 1886

Bought from United States, 1912. Captured from Spain, 1898.

L., 192 ft. B., 30 ft. D., 12.2 ft. Disp., 1125 tons.

I.H.P. 1000=14 kts. Coal cap., 159 tons.

Armour: Deck, 2.5 in. to 1.5 in.; C.T., 2 in.

Armament: 6-3 in. (14 pr.); 4-6 pr.; 4 M.

**R BOLIVAR** . La Graña, 1891. Bought from Spain, 1898 (ex *Galicia*)

L., 190 ft. B., 23 ft. D. (mean), 10.5 ft. Disp., 571 tons.

I.H.P. 2700=18.5 kts. Present speed, 10 kts. or less.

Armament: 4-6 pr.; 1 M. Torpedo tubes, 2 above water.

**V MIRANDA** . . Clydebank, 1895. Bought from Spain, 1898

Disp., 200 tons. Speed, 12 kts.

Armament: 2-6 pr.; 1 M.

## TORPEDO BOAT.

**P MARGARITA** . . . 1887. Bought from Spain, 1898

L., 147.4 ft. B., 14.5 ft. D., 4.7 ft. Disp., 97 tons.

I.H.P. 1600=25.5 kts. Coal cap., 25 tons.

Armament: 4-3 pr. Torpedo tubes, 2-14 in. above water.

## YACHT.

**X RESTAURADOR** . . . . Philadelphia, 1884. Bought, 1900

L., 243 ft. B., 26 ft. D., 11 ft. Disp., 568 tons.

Speed, 12 kts. Armament: 1-3 in. (12 pr.); 1-6 pr.; 4 M.

## TUG.

**X ZUMBADOR**. Disp., 351 tons. Armament: 2-6 pr.

## TRANSPORT.

**X ZAMORA** . . . 1874. Disp., 740 tons. Armament: 2 M.

## COASTGUARD TENDERS.

**X 23 DE MAYO and ALEXIS**. Disp., 130 tons. Armament: 1 M.

**X Americano, Coqueta, Schooners. Britannia, Revenue Sailing Cutter.**

# NAVAL GUNS

y  
en  
est.

Type.	Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
S	30·5	12·0	45	53·5	992	2625	47,400	<i>Viribus Unitis, Erz. Franz Ferdinand</i>
S	24	9·45	45	27·1	474	2625	22,910	<i>Erz. Franz Ferdinand</i>
S	24	9·45	40	28·1	485	2313	18,720	<i>Erz. Karl, Sankt Georg</i>
K	24	9·45	40	30·2	474	2313	18,085	<i>Habsburg, Kais. Karl VI.</i>
K	24	9·45	40	28·5	474	2264	16,845	<i>Wien</i>
S	19	7·48	42	12·1	198	2625	10,025	<i>Erz. Karl, Sankt Georg, K. u. K. Maria Theresia</i>
S	15	5·90	50	7·1	100·3	2887	5,760	<i>Viribus Unitis</i>
S	16	5·90	40	4·3	100·3	2264	3,550	<i>Habsburg, Sankt Georg, Kaiser Karl VI.</i>
K	15	5·87	40	4·4	100·3	2264	3,550	<i>Wien, Kais. Fr. Joseph I.</i>
K	15	5·87	35	3·8	100·3	2130	3,160	<i>K. u. K. Maria Theresia, Kais. Franz Joseph I.</i>
S	12	4·72	40	2·1	52·4	2264	3,550	<i>Zenta</i>
S	10	3·94	50	1·9	30·4	2952	1,840	<i>Erz. Franz Ferdinand, Admiral Spaun</i>

NOTE.—S=Skoda ; K=Krupp. See also Skoda and Krupp lists.

Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Pounds.	Mounted in—
34	13.38	45	66.0	1190.5	2675	65,845	<i>Normandie, Bretagne</i>
34	13.38	42	60.0	925.9	2625	44,230	<i>Brennus</i>
30.5	12.0	50	60.0	970.0	2870	55,180	<i>Courbet</i>
30.5	12.0	45	54.2	970.0	2840	46,565	<i>Danton</i>
30.5	12.0	45	47.3	749.6	2675	36,595	<i>Justice, Patrie, Suffren</i>
30.5	12.0	45	48.8	749.6	2560	33,400	<i>Carnot, Jauréguiberry</i>
30.5	12.0	40	45.1	749.6	2560	33,400	<i>Masséna</i>
30.5	12.0	40	43.3	749.6	2560	33,400	<i>Charlemagne</i>
27.4	10.8	45	35.1	562.2	2675	27,880	<i>Henri IV.</i>
27.4	10.8	45	37.1	562.2	2560	25,040	<i>Carnot, Jauréguiberry</i>
27.4	10.8	45	35.2	562.2	2560	25,040	<i>Masséna</i>
24	9.45	50	30.0	485.0	2870	27,590	<i>Danton</i>
24	9.45	40	22.3	374.8	2625	17,555	<i>D'Entrecasteaux</i>
19.4	7.63	45	15.0	189.6	3035	14,520	<i>Justice, Newer A.C.'s</i>
19.4	7.63	45	12.4	189.6	2755	10,875	<i>Gambetta</i>
19.4	7.63	40	10.5	189.6	2525	9,230	<i>Older A.C.'s</i>
16.4	6.46	45	8.1	114.6	2940	6,940	<i>Patrie, Renan</i>
16.4	6.46	45	8.1	114.6	2840	6,290	<i>Suffren, Older A.C.'s</i>
13.8	5.45	50	..	..	..	..	<i>Normandie, Bretagne, Courbet</i>
13.8	5.45	45	6.4	77.2	2395	3,000	<i>Older ships</i>
10	3.93	55	2.2	35.3	2395	1,290	<i>Suffren, Gloire, Gueydon</i>
10	3.93	45	1.7	35.3	2330	1,195	<i>Older ships</i>

Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
38·1	15·0	45	82·5	1675·5	2920	99,000	New Ships
30·5	12·0	50	52·2	859·8	3080	56,485	<i>König, Kaiser, Helgoland, Derfflinger, Lützow</i>
28	11·0	50	40·4	661·4	3080	43,725	<i>Seydlitz, Moltke</i>
28	11·0	45	36·3	661·4	2935	39,530	<i>Nassau, Von der Tann</i>
28	11·0	40	32·2	661·4	2775	35,270	<i>Braunschweig, Deutschland</i>
24	9·45	40	20·3	418·9	2765	22,215	<i>Wittelsbach, Heinrich, Bismarck</i>
24	9·45	40	20·3	418·9	2625	16,855	<i>Kaiser Friedrich III.</i>
21	8·26	40	13·4	275·6	2780	14,735	<i>Roon, Hertha</i>
17	6·69	40	7·5	154·3	2785	8,275	<i>Braunschweig, Deutschland</i>
15	5·90	45	5·0	101·4	2920	5,990	<i>Nassau, Later ships</i>
15	5·90	40	4·9	101·4	2755	5,335	Older ships
10·5	4·13	40	1·7	35·2	2755	1,860	Modern cruisers
10·5	4·13	35	1·2	33·2	2000	1,645	<i>Geier, Gefion</i>

NOTE.—See also Krupp list.

Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
38.1	15	45	96	1720	2655	84,070	<i>Queen Elizabeth, Royal Sovereign</i>
34.3	13.5	30	76	1250	2700	63,190	<i>Iron Duke, King George V., Orion, Tiger, Lion</i>
30.5	12	50	66	850	3000	53,400	<i>Neptune, Vanguard, Indefatigable</i>
30.5	12	45	59	850	2800	47,800	<i>Superb, Agamemnon, Invincible</i>
30.5	12	40	50	850	2600	39,200	<i>King Edward, London, Duncan</i>
30.5	12	35	46	850	2400	33,900	<i>Majestic, Canopus</i>
25.4	10	45	32.5	500	2800	27,200	<i>Swiftsure</i>
25.4	10	32	20	500	2040	14,430	<i>Renown, Centurion</i>
23.4	9.2	50	28	380	3000	23,000	<i>Agamemnon, Shannon</i>
23.4	9.2	45	27	380	2800	20,000	<i>King Edward, Older A.C.'s</i>
23.4	9.2	40	25	380	2350	14,520	<i>Terrible</i>
23.4	9.2	30	22	380	2030	10,900	<i>Edgar</i>
19	7.5	50	16	200	3000	12,500	<i>Swiftsure, Shannon, Warrior</i>
19	7.5	45	14	200	2900	11,600	<i>Devonshire</i>
15.2	6	50	8.7	100	3000	6,200	<i>King Edward, Black Prince, New cruisers</i>
15.2	6	45	7.4	100	2800	5,400	<i>London, Drake, etc.</i>
15.2	6	40	7	100	2200	3,400	<i>Canopus, Majestic, Old cruisers</i>
12	4.7	40	2	45	2200	1,500	<i>Astrea, Brilliant</i>
10.2	4	50	2	31	3000	1,930	<i>New ships</i>
10.2	4	40	1	25	2400	1,040	<i>Felorus, Diamond</i>

NOTE.—These figures are approximate only. See Elswick, Vickers and Coventry lists for the variations of the different makers.



Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
34·3	13·5	30	68	1250	2016	35,230	<i>Sardegna</i>
30·5	12·0	46	57·6	920	2820	49,375	<i>Cavour, Dante</i>
30·5	12·0	40	51·0	850	2650	41,370	<i>Regina Elena</i>
30·5	12·0	40	48·5	850	2500	39,370	<i>Benedetto Brin</i>
25·4	10·0	45	36·2	500	2800	27,180	<i>San Giorgio</i>
25·4	10·0	45	34·8	500	2850	26,950	<i>Pisa</i>
25·4	10·0	40	30·5	500	2400	18,000	<i>Filiberto, Garibaldi</i>
20·3	8·0	45	18·0	250	2845	14,000	<i>R. Elena, Brin, Garibaldi</i>
19·0	7·5	45	14·0	200	2900	11,500	<i>San Giorgio, Pisa</i>
15·2	6·0	40	6·6	100	2500	4,830	<i>Benedetto, Brin, Garibaldi</i>
15·2	6·0	40	6·5	100	2300	3,620	<i>Pisani, Marco Polo</i>
12·0	4·7	50	3·3	50	3000	2,800	New ships
12·0	4·7	40	2·1	50	2200	1,510	<i>Pisani, Marco Polo</i>
							Cruisers, Destroyers

NOTE.—All Armstrong or Vickers models. See also Elswick and Vickers lists.

Type.	Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
VK	35.56	14.0	45	80.2	1400	2615	66,385	<i>Kongo, Fuso</i>
A	30.5	12.0	50	66.7	850	3000	53,045	<i>Kawachi</i>
A	30.5	12.0	45	59.3	850	2800	46,210	<i>Aki, Satsuna, Kashima</i>
V	30.5	12.0	45	57.7	850	2850	47,875	<i>Katori, Mikasa</i>
K	30.5	12.0	45	60.0	850	2800	46,210	<i>Iwami, A.C.'s</i>
A	30.5	12.0	40	51.0	850	2650	41,385	<i>Asahi, Fuji</i>
O	30.5	12.0	40	42.5	720	2600	..	<i>Hizen, Tango</i>
A	25.4	10.0	50	38.2	500	3000	31,200	<i>Aki, Satsuna</i>
V	25.4	10.0	45	34.8	500	2850	26,945	<i>Katori</i>
A	25.4	10.0	45	36.2	500	2800	27,180	<i>Kashima</i>
O	25.4	10.0	45	32.0	485	2600	..	<i>Minoshima, Suwo</i>
K	20.3	8.0	45	18.5	250	2480	10,650	<i>Iwami, Ibuki</i>
A	20.3	8.0	45	18.0	250	2845	14,030	<i>Kasuga, Aso</i>
A	20.3	8.0	40	15.5	250	2650	10,225	<i>Older A.C.'s, Kasagi</i>
A	15.2	6.0	50	8.7	100	3000	6,240	<i>New ships</i>
A	15.2	6.0	45	8.4	100	2800	5,435	<i>Kashima, Kasuga, Aso</i>
V	15.2	6.0	45	7.4	100	2900	5,830	<i>Katori, Mikasa, Ikoma</i>
K	15.2	6.0	45	7.7	100	2800	5,435	<i>Sagami</i>
O	15.2	6.0	45	5.8	89	2600	..	<i>Hizen, Tango, etc.</i>
A	15.2	6.0	40	6.6	100	2500	4,335	<i>Older ships</i>
A	12.0	4.7	50	3.3	45	3000	2,810	<i>New ships</i>
O	12.0	4.7	45	2.9	45	2600	..	<i>Minoshima</i>
A	12.0	4.7	40	2.1	45	2200	1,510	<i>Older cruisers</i>

NOTE.—A=Armstrong (Elswick); V=Vickers; O=Obuchov (Russian); K=Kure. See also Elswick, Vickers and Russian lists.

Type.	Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
O	30.5	12.0	50	46.6	714	3000	..	<i>Gangut, Ekaterina II.</i>
O	30.5	12.0	40	42.1	714	2500	..	Older battleships
O	30.5	12.0	35	55.4	714	2100	..	<i>Pobyedonosets</i>
O	30.5	12.0	30	50.6	714	1850	..	<i>Aleksandr II., Sinop</i>
V	25.4	10.0	50	34.8	500	2860	28,225	<i>Ryurik</i>
O	25.4	10.0	45	22.5	500	2280	..	<i>Rostislav</i>
V	20.3	8.0	50	14.6	216.7	3090	14,350	<i>Ryurik</i>
O	20.3	8.0	50	14.2	211.6	3000	..	<i>Pavel I., Evstaf III.</i>
O	20.3	8.0	45	12.0	189	2925	..	Armoured cruisers
O	15.2	6.0	45	5.7	89	2500	..	All modern ships
O	15.2	6.0	35	5.0	89	2300	..	<i>Pobyedonosets, Sinop</i>
V	12.0	4.7	50	3.2	45	3050	2,910	<i>Ryurik, Pavel I., New ships</i>
O	12.0	4.7	45	3.0	45	2700	..	<i>Aleksandr II., Tri Svyatitelya</i>
O	12.0	4.7	30	1.0	45	1650	..	New destroyers

NOTE.—O=Obuchov; V=Vickers.

Calibre in Centimetres.	Calibre in Inches.	Length in Calibres.	Weight of Gun in Tons.	Weight of Projectile in Pounds.	Muzzle Velocity in Feet per Second.	Muzzle Energy in Foot-Tons.	Mounted in—
35.56	14.0	45	63.3	1400	2600	65,606	Pennsylvania, Nevada, Texas
33.02	13.0	35	61.4	1100	2300	40,338	Kearsage, Alabama, Indiana
30.5	12.0	50	56.1	870	2950	52,483	Arkansas
30.5	12.0	45	53.6	870	2850	48,948	Utah, Delaware, Michigan
30.5	12.0	45	52.9	870	2700	43,964	Kansas, Mississippi
30.5	12.0	40	52.1	870	2600	40,768	New Jersey, Maine, Ozark
30.5	12.0	35	45.3	870	2100	26,596	Iowa, Monterey
25.4	10.0	40	34.6	510	2700	25,772	North Carolina
25.4	10.0	35	27.6	500	2100	15,235	Monterey
20.3	8.0	45	18.7	260	2750	13,300	Modern ships
20.3	8.0	35	13.1	260	2100	7,948	Kearsage, Iowa, Indiana, Brooklyn, Olympia
17.8	7.0	45	12.7	165	2700	8,338	Kansas, Mississippi
15.2	6.0	50	8.6	105	2800	5,707	New Jersey, North Carolina
15.2	6.0	50	8.3	105	2600	4,920	Maine, Colorado
15.2	6.0	40	6.0	105	2150	3,365	Alabama, Columbia
12.7	5.0	50	4.6	50	3000	3,122	New ships
12.7	5.0	40	3.1	50	2300	1,834	Kearsage, Brooklyn, Olympia
10.2	4.0	50	2.6	33	2500	1,430	Iowa

## BALLISTICS, WEIGHTS, ETC. OF

		Semi- Automatic.			Semi- Automatic.		Naval Landing.
Diameter of bore, <i>in.</i>	1.85	1.85	1.85	2.24	2.24	2.953	3
Diameter of bore, <i>mm.</i>	47	47	47	57	57	75	76
Length of bore, <i>calibres</i>	40	46	50	40	50	14.13	18.8
Weight of gun . . .	cwts. 4.51	cwts. 5.0	cwts. 7.5	cwts. 7.5	cwts. 10.5	cwts. 1.875	cwts. 4
Weight of gun, <i>kilos.</i>	230	254	381	381	583	95	203
Weight of projectile, <i>lbs.</i>	3.3	3.3	3.3	6	6	11.75	12.5
Weight of projectile, <i>kilos.</i>	1.5	1.5	1.5	2.722	2.722	5.33	5.67
Weight of charge M.D. cordite	ozs. 8.25	ozs. 10.0	lb. 1	ozs. 10	lb. oz. 1 2.5	ozs. 7.75	ozs. 15
Weight of charge M.D. cordite, <i>kilos.</i>	0.234	0.283	0.453	0.283	0.525	0.22	0.369
Muzzle velocity, <i>f.-s.</i>	2132	2300	2680	1968	2400	1100	1585
Muzzle velocity, <i>m.-s.</i>	650	701	817	600	731	335	483
Muzzle energy, <i>f.-t.</i>	104	121	164	161	240	98	213
Muzzle energy, <i>m.-t.</i>	32.2	37.5	50.8	49.8	74.3	30.3	66
Penetration at muzzle, <i>in.</i> (Tressider wrought-iron plate.)	5.15	5.8	7.3	5.4	7.3	..	..
Penetration at muzzle, <i>mm.</i>	130.8	147.3	185.4	137.2	185.4	..	..
Rounds per minute .	25	25	25	25	25	20	20

## ELSWICK B.L. AND Q.F. GUNS.

		Semi- Automatic.	Jointed Gun.								
3	3	3	3	4	4	4-7	4-7	4-7	6	6	
76	76	76	76	102	102	120	120	120	152	152	
40	50	30	19-2	50	50	40	45	50	40	45	
cwts. 12	cwts. 17-75	cwts. 23	cwts. 4-5	cwts. 26	cwts. 42	cwts. 42	cwts. 53	cwts. 66	tons 6-6	tons 8-4	
609	901	1168	229	1321	2134	2134	2692	3353	6706	8535	
12-5	12-5	14-33	14-33	31	31	45	45	45	100	100	
5-67	5-67	6-5	6-5	14-06	14-06	20-41	20-41	20-41	45-36	45-36	
lbs. 2	lbs. 3	lbs. 5-75	ozs. 15	lbs. 5-5	lbs. 10-5	lbs. 6-125	lb. oz. 9 11	lbs. 14	lbs. 24	lbs. 31	
0-907	1-36	2-608	0-425	2-495	4-76	2-78	4-395	6-35	10-886	14-061	
2210	2600	3050	1485	2300	3000	2200	2600	3000	2500	2800	
674	792	930	452	701	914	670	792	914	762	853	
423	586	922	218	1187	1934	1510	2109	2808	4334	5436	
131	181-5	235-5	67-5	352-1	599	467-6	653	869-6	1342-2	1683-4	
8	10-3	13-7	..	11-6	17-4	12-1	15-6	19-3	19-4	22-9	
203-2	261-6	348	..	294-6	442	307-3	396-2	490-2	492-8	581-6	
20	20	30	15	12	12	12	12	12	9	9	

## BALLISTICS, WEIGHTS, ETC. OF

Diameter of bore, <i>in.</i>	6	7.5	7.5	8	8	9.2	9.2
Diameter of bore, <i>mm.</i>	152	190	190	203	203	234	234
Length of bore, <i>calibres</i>	50	45	50	45	50	45	50
Weight of gun . . .	tons 8.75	tons 13.8	tons 15.75	tons 18	tons 20.4	tons 26.75	tons 28.82
Weight of gun, <i>kilos</i> .	8890	14021	16003	18289	20727	27179	29289
Weight of projectile, <i>lbs.</i>	100	200	200	250	250	380	380
Weight of projectile, <i>kilos.</i>	45.36	90.72	90.72	113.4	113.4	172.37	172.37
Weight of charge M.D. cordite	lbs. 33	lbs. 74	lbs. 76	lbs. 80	lbs. 90	lbs. 122	lbs. 136
Weight of charge M.D. cordite, <i>kilos.</i>	15	33.566	34.478	36.29	40.82	55.34	61.7
Muzzle velocity, <i>f.-s.</i>	3000	2900	3000	2845	3000	2750	3000
Muzzle velocity, <i>m.-s.</i>	914	884	914	867	914	838	914
Muzzle energy, <i>f.-t.</i> .	6240	11663	12481	14031	15600	19926	22714
Muzzle energy, <i>m.-t.</i> .	1932	3611.9	3865.2	4345.2	4831.2	6171	7340
Penetration at muzzle, <i>in.</i> (Tressider wrought-iron plate.)	25.5	30.6	32.3	32.2	34.9	35.2	40.1
Penetration at muzzle, <i>mm.</i>	647.7	777.2	820.4	817.9	886.4	894.1	1018.5
Rounds per minute .	9	6	6	5	5	4	4

ELSWICK B.L. AND Q.F. GUNS—continued.

10	10	10	12	12	12	12	13.5	14	16
254	254	254	305	305	305	305	343	355.6	406.4
40	45	50	40	40	45	50	45	45	40
tons	tons	tons	tons	tons	tons	tons	tons	tons	tons
31	36.25	38.25	48.5	51	59.3	66.7	76	85	105
31497	36832	38564	49278	51818	60252	67770	77216	86360	106680
450	500	500	850	850	850	850	1250	1400	2200
204.12	226.8	226.8	385.55	385.55	385.55	385.55	567	635	998
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
86.5	167	200	155	260	260	285	296	324	390
39.24	75.75	90.72	70.31	117.93	117.93	129.3	134.26	147	177
2400	2800	3000	2400	2650	2800	3000	2700	2700	2340
781	853	914	731	808	853	914	823	823	713
17973	27181	31203	33949	41386	46208	53046	63187	70770	83530
5566	8418	9663	10513	12816	14310	16428	19568	21916	25868
29.9	39.7	44.1	37.5	43.6	47.3	52.5	51.3	53.2	50.4
759.4	1008.4	1120.1	952.5	1107.4	1201.4	1333.5	1303	1351.3	1230
3	3	3	2	2	2	2	2	2	2



## VICKERS GUNS

	37 mm. 30 cal.	37 mm. 42.5 cal.	3 pounder 50 cal.	6 pounder 50 cal.	3 inch semi-auto. 50 cal.
Diameter of bore, in. . .	1.457	1.457	1.85	2.244	3
Length of bore, in. . .	43.5	62	92.5	112.2	150
Length of gun, in. . .	73.75	94	98.9	118.6	156.995
Weight of projectile, lbs.	1	1.25	3.3	6	12.5
	cwts.	cwts.	cwts.	cwts.	cwts.
Weight of gun . . .	3.75	5.42	5.53	9.29	19
Muzzle Velocity, foot-secs.	1800	2300	2800	2600	2700
Muzzle Energy, foot-tons.	22.5	45.85	179.4	281	632
Penetration of wrought-iron plate at muzzle.	1.9	3.3	6.7	7.5	9.65
Gavre formula, in. . .					
Penetration of hard steel plate at 3000 yards.	..	..	..	..	..
Gavre formula, in. . .					
Rounds per minute . .	300	300	30	28	25
	c. q. l.	c. q. l.	c. q. l.	c. q. l.	t. c. q. l.
Weight of mounting complete with shield .	4 1 10	4 3 20	11 2 0	18 1 0	1 1 1 0
Thickness of shield . .	1875	0.16	in. 0.25	in. 0.25	in. 0.25
	c. q. l.	c. q. l.	c. q. l.	c. q. l.	c. q. l.
Weight of shield . . .	0 3 11	0 1 22	1 0 0	1 2 8	2 1 0
Angle of elevation . . .	16°	15°	20°	20°	20°
Angle of depression . .	25°	20°	20°	10°	10°

AND MOUNTINGS.

4 inch semi-auto. 40 cal.	4 inch 50 cal.	4.7 inch 45 cal.	4.7 inch 50 cal.	6 inch 45 cal.	6 inch 50 cal.	7.5 inch 45 cal.	7.5 inch 50 cal.
4 160 166.6	4 201.15 208.45	4.724 212.6 220	4.724 228.45 236.2	6 269.5 279.2	6 300 310.07	7.5 337.5 349.2	7.5 375 386.7
31 cwts. 25 2300 1137	31 cwts. 41 3030 1975	45 tons. 3.18 2800 2445	45.14 tons. 3.2 3050 2910	100 tons. 7.42 2900 5830	100 tons. 7.8 3100 6665	200 tons. 14.02 2875 11,465	200 tons. 16.0 3003 12,505
10.8	16	15.9	17.8	22.6	24.8	28.75	30.75
..	..	..	5.0	7.8	8.8	10.6	11.4
20 t. c. q. l.	15 t. c. q. l.	12 t. c. q. l.	12 t. c. q. l.	10 t. c. q. l.	10 t. c. q. l.	8 t. c. q. l.	8 t. c. q. l.
110 2 0	2 6 3 0	3 13 3 0	6 5 3 0	9 1 1 0	12 0 2 0		
in. 0.028	none	in. 2 & 0.313	in. 4.33	in. 3	in. 3 & 1.5	Depending on type of mounting.	
c. q. l. 1 1 0	none	c. q. l. { 7 0 0 } { 1 0 0 }	t. c. q. l. 2 8 2 0	t. c. q. l. 3 1 1 0	t. c. q. l. 5 5 0 0		
20° 10°	15° 10°	20° 7°	16° 7°	15° 7°	15° 7°		

est.

## VICKERS GUNS

	8 inch 50 cal.	9.2 inch 45 cal.	9.2 inch 50 cal.	10 inch 45 cal.
Diameter of bore, <i>in.</i> . . . .	8	9.2	9.2	10
Length of bore, <i>in.</i> . . . .	388.75	429.3	460	450
Length of gun, <i>in.</i> . . . .	400	442.35	473	464.6
Weight of projectile, <i>lbs.</i> . . . .	216.7	380	380	478.4
	tons.	tons.	tons.	tons.
Weight of gun . . . . .	14.6	26.85	27.81	34.85
Muzzle Velocity, <i>foot-secs.</i> . . . .	3090	2800	2950	2850
Muzzle Energy, <i>foot-tons</i> . . . .	14,350	20,660	22,930	26,945
Penetration of wrought-iron plate at muzzle. Gavre formula, <i>in.</i> . . . .	31.5	35.3	38.0	38.9
Penetration of hard steel plate at 3000 yards. Gavre formula, <i>in.</i> . . . .	12.6	14.1	15.2	15.8
Rounds per minute . . . . .	6	4	4	3
Weight of mounting complete with shield . . . . .	..	..	..	..
Thickness of shield . . . . .	..	..	..	..
Weight of shield . . . . .	..	..	..	..
Angle of elevation . . . . .	..	..	..	..
Angle of depression . . . . .	..	..	..	..

AND MOUNTINGS—continued.

[illegible]

## COVENTRY ORDNANCE

	3 pr. 50 cal.	6 pr. 50 cal.	Mountain 3·3 in. 20-pr. Howitzer.	12½ pr. 23 cal.
Diameter of bore, in. .	1·85	2·244	3·3	3·0
Diameter of bore, mm.	47	57	83·8	76·2
Length of gun, in. .	99·0	119	45·25	75·0
Length of gun, mm. .	2514·5	3022·5	1149·2	1904·9
Weight of charge, lbs.	1·1	1·75	·5	1·0
Weight of charge, kgs.	·5	·8	·23	·45
Wgt. of projectile, kgs.	1·5	2·72	9·07	5·67
Wgt. of projectile, lbs.	3·3	6·0	20·0	12·5
Weight of gun . . .	t. c. q. l. 0 6 0 0	t. c. q. l. 0 10 0 0	t. c. q. l. 0 2 2 0	t. c. q. l. 0 6 0 8
Weight of gun, kgs. .	304·8	508·0	127·0	304·8
Muzzle velocity, ft.-sec.	2800	2800	860	1600
Muzzle velocity, m.-sec.	853	853	262	488
Muzzle energy, m.-tons	55·6	101	31·6	68·7
Muzzle energy, ft.-tons	179·4	326	102	222
Penetration of wrought-iron plate at muzzle, in.	..	..	..	..
Penetration of wrought-iron plate at muzzle, mm.	..	..	..	..
Penetration of hard steel plate at 5000 yards, in.	..	..	..	..
Penetration of hard steel plate at 5000 yards, mm.	..	..	..	..

## WORKS' GUNS.

Field.			3 in. 40 cal.	3 in. 50 cal.	4 in. 40 cal.
15 pr. 33·44 cal.	4·65-in. Howitzer.	6-in. Howitzer.			
3·0	4·65	6·0	3·0	3·0	4·0
76·2	117·5	152·4	76·2	76·2	101·6
100·34	72	101·5	128·6	154·5	166·4
2548·5	1828·8	2578	3139·3	3924	4226·4
1·626	1·1	5·0	2·0	5·25	5·25
74	5	2·27	·91	2·38	2·38
6·8	17·01	45·36	5·67	5·67	14·06
15·0	37·5	100	12·5	12·5	31·0
t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.
0 8 2 0	0 8 2 0	1 2 2 0	0 12 1 0	0 18 2 21	1 5 3 15
431·8	431·8	1143	622	948	1315
1350	1000	1120	2300	3000	2300
564	305	341	701	914	701
110	80·5	269	142	242	352
356	260	870	458·5	780	1137
..	..	..	7·7	11·25	10·8
..	..	..	195·5	235·7	274·3
..	..	..	..	..	..
..	..	..	..	..	..

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	4 in. 50 cal.	4.7 in. 50 cal.	6 in. 50 cal.	7.5 in. 50 cal.
Diameter of bore, <i>in.</i> .	4.0	4.7	6.0	7.5
Diameter of bore, <i>mm.</i>	101.6	120.0	152.4	190.5
Length of gun, <i>in.</i> .	208	242.5	310	387.5
Length of gun, <i>mm.</i> .	5283	6159.2	7873.8	9842.2
Weight of charge, <i>lbs.</i>	11.25	16.0	31.0	71.0
Weight of charge, <i>kgs.</i>	5.1	7.26	14.06	32.2
Wgt. of projectile, <i>kgs.</i>	14.06	20.41	43.36	90.72
Wgt. of projectile, <i>lbs.</i>	31	45	100	200
Weight of gun . .	t. c. q. l. 2 2 0 0	t. c. q. l. 3 14 2 0	t. c. q. l. 8 15 0 0	t. c. q. l. 15 10 0 0
Weight of gun, <i>kgs.</i> .	2134	3785	8890	15,749
Muzzle velocity, <i>ft.-sec.</i>	3000	3000	2950	2,950
Muzzle velocity, <i>m.-sec.</i>	914	914	900	900
Muzzle energy, <i>m.-tons</i>	599	870	1869	3,737
Muzzle energy, <i>ft.-tons</i>	1934	2810	6034	12,068
Penetration of wrought-iron plate at muzzle, <i>in.</i>	16	17.4	23.1	29.8
Penetration of wrought-iron plate at muzzle, <i>mm.</i>	406.4	441.9	586.7	756.9
Penetration of hard steel plate at 5000 yards, <i>in.</i>	..	2.6	5.5	8.5
Penetration of hard steel plate at 5000 yards, <i>mm.</i>	..	66	139.7	215.9

## WORKS' GUNS—continued.

9·2 in. 50 cal.	11·02 in. 50 cal.	12 in. 50 cal.	13·5 in. 45 cal.	14 in. 45 cal.	14 in. 45 cal.
9·2	11·02	12·0	13·5	14·0	14·0
233·7	280	304·8	342·9	355·6	355·6
475	568	617·7	630	648·7	648·7
12,064	14,427	15,689	16,001	16,476	16,476
95	270	285	290	300	305
43·09	122·47	129·28	131·54	136·08	138·35
172·36	344·72	385·56	567·0	635·0	726
380	760	850	1,250	1,400	1,600
t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.	t. c. q. l.
28 0 0 0	42 0 0 0	67 0 0 0	76 10 0 0	81 0 0 0	81 0 0 0
23,449	42,674	68,075	77,728	82,300	82,300
2,950	2,950	2,950	2,600	2,600	2,450
900	900	900	792	792	747
7,101	14,203	15,884	18,148	20,322	20,619
22,930	45,861	51,290	58,590	65,620	66,580
37·9	51·2	50·65	49·1	51·2	51·7
962·6	1300·3	1286·4	1,247	1300·3	1315·2
12·3	18·0	18·3	18·3	19·3	20·7
312·4	457·2	464·8	464·8	490·2	525·8

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Calibre, in. . .	2.91			3.46			4.13		
Calibre, cm. . .	7.5			8.8			10.5		
Length in calibres .	40	45	50	40	45	50	40	45	50
Total length, ft. .	10.47	11.71	12.94	12.30	13.74	15.19	14.69	16.40	18.12
Total length, cm. .	319.5	357	394.5	375	419	463	447.5	500	552.5
Weight of gun, tons. .	0.66	0.75	0.84	1.08	1.21	1.35	1.53	1.73	1.92
Weight of gun, kilos. .	677	764	850	1094	1234	1378	1555	1755	1950
Weight of shot, lbs. .	12.8	12.8	12.8	20.9	20.9	20.9	35.3	35.3	35.3
Weight of shot, kilos. .	5.8	5.8	5.8	9.5	9.5	9.5	16	16	16
Weight of charge, lbs. .	3.64	4.50	4.61	5.86	6.61	7.43	10.03	11.68	14.55
Weight of charge, kilos. .	1.65	1.86	2.09	2.66	3.00	3.37	5.05	5.80	6.60
Muzzle velocity, ft.-secs. .	2756	2920	3084	2756	2920	3084	2756	2920	3084
Muzzle velocity, m.-secs. .	840	890	940	840	890	940	840	890	940
Muzzle energy, ft.-tons .	672	756	875	1103	1238	1380	1850	2084	2326
Muzzle energy, m.-tons .	208.6	234.2	261.2	341.7	383.5	427.8	575	646	721
Penetration at muzzle (steel), in. .	8.00	8.66	9.33	9.56	10.40	11.22	11.50	12.44	13.55
Penetration at muzzle (steel), mm. .	203	220	238	243	264	285	292	317	344

## NAVAL GUNS.

4.72			5.90			6.69			7.48		
12			15			17			19		
40	45	50	40	45	50	40	45	50	40	45	50
16.76	18.73	20.70	20.85	23.29	25.74	24.13	26.95	29.79	26.55	29.67	32.79
511	571	631	635.5	710	784.5	735.5	821.5	908	809.5	904.5	999.5
2.29	2.58	2.86	4.39	4.45	5.50	6.32	7.68	8.56	9.08	10.23	11.36
2325	2620	2910	4460	5020	5590	6930	7800	8680	9230	10400	11550
52.9	52.9	52.9	101.4	101.4	101.4	154.3	154.3	154.3	209.4	209.4	209.4
24	24	24	46	46	46	70	70	70	95	95	95
16.54	9.08	21.50	31.75	35.6	41.7	48.9	52.6	64.6	65.7	75.6	86.2
7.50	8.65	9.85	14.4	16.6	18.9	22.4	25.7	29.3	29.8	34.3	39.1
2756	2920	3084	2756	2920	3084	2756	2920	3084	2756	2920	3084
840	890	940	840	890	940	840	890	940	840	890	940
2786	3128	3490	5340	5995	6690	8120	9120	10175	11025	12370	13800
863	969	1081	1654	1857	2072	2517	2826	3152	3417	3835	4278
18.31	14.35	15.68	16.78	18.23	19.70	19.38	21.08	23.77	21.86	23.63	25.65
338	367	397	426	463	500	492	535	578	553	600	649

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## KRUPP NAVAL

Calibre, in. .	8.26			9.45		
Calibre, cm. .	21			24		
Length in calibres	40	45	50	40	45	50
Total length, ft.	29.25	32.69	36.09	33.5	37.45	41.42
Total length, cm.	891.5	996.5	1101	1022.5	1142.5	1262.5
Weight of gun, tons.	12.13	13.68	15.20	18.3	16.48	20.27
Weight of gun, kilos.	12330	13900	15450	18600	16750	21000
Weight of shot, lbs.	275.5	275.5	275.5	418.9	418.9	418.9
Weight of shot, kilos.	125	125	125	190	190	190
Weight of charge, lbs.	88.0	101.0	115.3	132.5	114.3	152.5
Weight of charge, kilos.	39.9	45.8	52.3	60.1	51.8	69.1
Muzzle velocity, ft.-secs.	2756	2920	3084	2756	2625	2920
Muzzle velocity, m.-secs.	840	890	940	840	800	890
Muzzle energy, ft.-tons	1450	16300	18165	22050	20000	24750
Muzzle energy, m.-tons	4495	5047	5629	6833	6198	7671
Penetration at muzzle (steel), in.	23.86	25.91	28.00	27.68	25.91	30.35
Penetration at muzzle (steel), mm.	606	658	711	703	658	766

GUNS—continued.

11						12					
28						30.5					
40	45	50	40	45	50	40	45	50	40	45	50
39.11	43.73	48.33	42.68	47.64	52.58	42.68	47.64	52.58	42.68	47.64	52.58
1198	1333	1473	1299.5	1452	1604.5	1299.5	1452	1604.5	1299.5	1452	1604.5
29.08 26.17	32.76 29.72	36.41 33.50	37.60 33.86	42.30 38.37	47.05 43.30	37.60 33.86	42.30 38.37	47.05 43.30	37.60 33.86	42.30 38.37	47.05 43.30
29550 26800	33300 30200	37000 34050	33200 34400	43000 39000	47800 44000	33200 34400	43000 39000	47800 44000	33200 34400	43000 39000	47800 44000
661.4 661.4	661.4 661.4	661.4 661.4	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8	859.8 859.8
300 300	300 300	300 300	390 390	390 390	390 390	390 390	390 390	390 390	390 390	390 390	390 390
219.0 180.8	242.5 219.0	276.8 244.7	271.2 234.7	316.0 271.2	357.0 316.3	271.2 234.7	316.0 271.2	357.0 316.3	271.2 234.7	316.0 271.2	357.0 316.3
95 82	110 95	125 111	123 106	142 123	162 143	123 106	142 123	162 143	123 106	142 123	162 143
2756 2625	2920 2789	3084 2953	2756 2625	2920 2789	3084 2953	2756 2625	2920 2789	3084 2953	2756 2625	2920 2789	3084 2953
840 800	890 850	940 900	840 800	890 850	940 900	840 800	890 850	940 900	840 800	890 850	940 900
34820 31600	39100 35660	43600 40000	45600 41050	50825 46370	55840 51950	45600 41050	50825 46370	55840 51950	45600 41050	50825 46370	55840 51950
10790 9790	12110 11050	13510 12390	14030 12720	15750 14360	17560 16100	14030 12720	15750 14360	17560 16100	14030 12720	15750 14360	17560 16100
32.00 30.80	35.45 33.15	38.30 36.00	35.92 33.47	39.00 36.52	42.18 39.60	35.92 33.47	39.00 36.52	42.18 39.60	35.92 33.47	39.00 36.52	42.18 39.60
828 772	900 842	973 914	912 850	990 927	1071 1006	912 850	990 927	1071 1006	912 850	990 927	1071 1006



## GUNS—continued.

15				16							
38.1				40.64							
45		50		40		45		50			
59.50		65.75		56.81		63.47		70.13			
1818.5		2004		1731.5		1934.5		2137.5			
82.5	74.9	91.7	84.4	88.8	80.1	100.1	91.9	111.3	102.4		
83800	76100	93200	85800	90300	81400	101700	92400	113100	104100		
1675.5	1675.5	1675.5	1675.5	2028.2	2028.2	2028.2	2028.2	2028.2	2028.2		
760	760	760	760	920	920	920	920	920	920		
610.5	531.5	694.5	615.0	644.0	555.5	741.0	644.0	844.0	747.5		
277	241	315	279	292	252	336	292	383	339		
2920	2789	3084	2953	2756	2625	2920	2789	3084	2953		
890	850	940	900	840	800	890	850	940	900		
99000	90350	110500	101200	106800	96850	119850	109300	133750	122500		
30680	27990	34230	31380	33090	30010	37140	33880	41430	37980		
49.50	46.40	53.45	50.30	48.75	45.40	52.90	49.60	57.20	53.80		
1257	1177	1359	1277	1238	1154	1344	1259	1453	1366		

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**SCHNEIDER-CANET NAVAL GUNS**

	1·45 3·7	1·85 4·7	2·91 7·5	3·94 10	4·72 12	5·91 15
Calibre in inches . . . . .						
Calibre in cm. . . . .						
Length in calibres . . . . .						
Weight of gun, tons . . . . .						
Weight of gun, kilos. . . . .						
Weight of shot, lbs.. . . .						
Weight of shot, kilos. . . . .						
Muzzle velocity, foot-seconds . . . . .						
Muzzle velocity, m.-seconds . . . . .						
Muzzle energy, foot-tons . . . . .						
Muzzle energy, m.-tons . . . . .						
Penetration at 5000 m. (5468 yards), steel, inches.						
Penetration at 5000 m. (5468 yards), steel, mm.						
Penetration at 6000 m. (6561 yards), steel, inches.						
Penetration at 6000 m. (6561 yards), steel, mm.						

SCHNEIDER-CANET NAVAL GUNS—continued.

Calibre in inches Calibre in cm.	9.45		12.01		13.39		14.57		15.78	
	45	24	45	30.5	40	34	40	37	40	40
Length in calibres . . . .	45	50	45	50	40	45	40	45	40	45
Weight of gun, tons . . . .	25.95	26.95	53.25	55.40	63.37	66.02	78.90	83.60	99.25	100.25
Weight of gun, kilos . . . .	26400	27400	54100	53280	64700	67350	80200	85000	101000	104200
Weight of shot, lbs. . . . .	474	474	970	970	1324	1334	1720	1720	2182	2182
Weight of shot, kilos . . . .	215	215	440	440	605	605	780	780	990	990
Muzzle velocity, foot-seconds . . . .	2740	2855	2740	2855	2560	2060	2495	2575	2425	2495
Muzzle velocity, m.-seconds . . . .	885	870	835	870	780	810	760	785	740	760
Muzzle energy, foot-tons . . . .	24090	26780	50200	54850	60650	65350	74200	79200	89400	94200
Muzzle energy, m.-tons . . . .	7650	8300	15620	17000	18800	20250	23000	24550	27700	29200
Penetration at 5000 m. (5468 yards), steel, inches . . . .	..	..	..	..	..	..	..	..	..	..
Penetration at 5000 m. (5468 yards), steel, mm. . . . .	..	..	..	..	..	..	..	..	..	..
Penetration at 6000 m. (6561 yards), steel, inches . . . .	9.2	11.2	14.3	15.2	15.2	16.1	16.7	17.5	17.9	18.7
Penetration at 6000 m. (6561 yards), steel, mm. . . . .	260	285	365	387	388	410	423	445	455	475

Regional Security Dynamics  
Their Impact on India

National Security — National





## GUNS.

23 11·02			25·4 10			24 9·45			21 8·27		
50	45	40	50	45	40	50	45	40	50	45	40
551·2	406·1	441	500	450	400	472·4	425·2	378	413·4	372	330·7
39	35	30	20	26	23	24	22	19	16	14·4	12·8
761	761	761	564	564	564	474	474	474	309	309	309
595	595	595	445	445	445	375	375	375	249	249	249
205	184	164	153	138	123	129	116	103	84	75·8	67·5
2,776	2,625	2,477	2,789	2,638	2,490	2,789	2,638	2,490	2,828	2,677	2,526
3,140	2,969	2,802	3,140	2,969	2,802	3,140	2,969	2,802	3,150	2,979	2,812
40,767	36,452	32,468	30,536	27,320	24,349	25,647	22,944	20,448	17,174	15,391	13,705
36·4	33·6	30·9	32·9	30·3	27·9	30·8	28·5	26·2	25·7	24·7	22·7
2	2	2	3	3	3	4	4	4	4	4	4
12 4·72			10·5 4·13			8·7 3·43			7·5 2·95		
50	45	40	50	45	40	50	45	40	50	45	40
236·2	212·6	189	227·4	206·7	186	188·4	171·3	154·1	162·4	147·6	132·9
2·96	2·56	2·37	2·2	2	1·8	1·88	1·14	1·05	0·72	0·665	0·59
59·5	59·5	59·5	39·7	39·7	39·7	22·7	22·7	22·7	14·5	14·5	14·5
46·3	46·3	46·3	30·9	30·9	30·9	17·6	17·6	17·6	11·5	11·5	11·5
16·2	14·5	12·9	10·8	9·7	8·7	6·14	5·53	4·92	3·92	3·53	3·13
2,789	2,638	2,474	2,871	2,733	2,585	2,864	2,726	2,582	2,848	2,717	2,572
3,143	2,973	2,805	3,251	3,097	2,933	3,248	3,084	2,936	3,215	3,074	2,907
3,220	2,881	2,567	2,267	2,057	1,841	1,292	1,169	1,049	817	742·7	668·5
14·7	13·6	12·5	13·2	12·3	11·4	10·8	10·1	9·4	9·2	8·5	7·9
11	11	11	15	15	15	17	17	17	20	20	20

Regional Security Dynamic  
Their Impact on India

National Security - National

SKODA

(Table supplied by

Calibre, inches	1·85			2·24			2·59			2·91	
Calibre, cm.	4·7			5·7			6·6			7·5	
Length in calibres	40	45	50	40	45	50	40	45	50	40	45
Weight of gun, tons	0·24	0·27	0·30	0·35	0·39	0·44	0·51	0·58	0·65	0·71	0·81
Weight of gun, kilos.	240	275	310	355	400	450	520	590	660	725	820
Weight of light shot, lbs.	..	..	..	..	..	..	..	..	..	11·4	11·4
Weight of light shot, kilos.	..	..	..	..	..	..	..	..	..	5·2	5·2
Weight of heavy shot, lbs.	3·4	3·4	3·4	5	6	6	8·8	8·8	8·8	14·5	14·5
Weight of heavy shot, kilos.	1·53	1·53	1·53	2·72	2·72	2·72	4	4	4	6·6	6·6
Weight of charge, lbs.	1·10	1·21	1·26	1·69	1·87	2·02	2·38	2·64	2·91	3·59	3·97
Weight of charge, kilos.	0·50	0·55	0·57	0·77	0·85	0·92	1·08	1·20	1·32	1·63	1·8
Muzzle velocity, light shot, ft.-secs.	..	..	..	..	..	..	..	..	..	2822	2995
Muzzle velocity, light shot, m.-secs.	..	..	..	..	..	..	..	..	..	860	913
Muzzle velocity, heavy shot, ft.-secs.	2625	2789	2953	2625	2789	2953	2625	2789	2953	2493	2657
Muzzle velocity, heavy shot, m.-secs.	800	850	900	800	850	900	800	850	900	760	810
Muzzle energy, ft.-tons.	161	182	208	286	323	364	421	475	533	632	713
Muzzle energy, m.-tons.	49·9	56·3	63·2	88·7	100·2	112·3	130·5	147·2	165·2	195·7	220·9
Penetration at muzzle, steel (de Marre's formula), in.	4·8	5·2	5·6	5·8	6·3	6·9	6·5	7·1	7·8	7·6	8·3
Penetration at muzzle, steel (de Marre's formula), cm.	12·1	13·1	14·3	14·8	16·1	17·5	16·6	18·1	19·7	19·3	21·1

## GUNS.

*Manufacturers, 1913.)*

291	3.54			4.12			4.72			5.90	
7.5	9			10.5			12			15	
50	40	45	50	40	45	50	40	45	50	40	45
0.90	0.99	1.14	1.28	1.93	2.18	2.47	2.95	3.37	3.79	5.8	6.6
920	1015	1155	1300	1960	2220	2510	3000	3425	3850	5300	6750
11.4	19.8	19.8	19.8	30.9	30.9	30.9	46.3	46.3	46.3	90.4	90.4
6.2	9	9	9	14	14	14	21	21	21	41	41
14.5	25.1	25.1	25.1	39.7	39.7	39.7	59.5	59.5	59.5	112.4	112.4
6.6	11.4	11.4	11.4	18	18	18	27	27	27	51	51
4.40	6.83	7.71	8.59	9.36	10.6	11.7	15.0	16.7	18.3	29.8	32.8
2.0	3.1	3.5	3.9	4.25	4.8	5.3	6.8	7.6	8.3	13.5	14.9
3170	3005	2990	3175	2855	3010	3195	2865	3050	3235	2890	3070
967	855	912	968	862	918	975	873	930	986	881	936
2822	2493	2657	2822	2403	2667	2822	2526	2690	2854	2592	2756
860	760	810	860	760	810	860	770	820	870	790	840
799	1082	1230	1386	1518	1942	2178	2665	2987	3360	5235	5920
247.7	335.5	361.2	429.7	529.9	601.9	678.5	815.9	925.3	1041.6	1622.2	1834.1
9.0	9.2	10.1	11.0	10.7	11.7	12.7	12.9	14.1	15.3	16.4	17.9
23.0	23.4	25.7	27.9	27.1	29.6	32.3	32.7	35.8	38.9	41.7	45.6

Regional Security Dynamics  
Their Impact on India

National Security - National

Calibre, inches	5.90	7.48				8.27				9.45		
Calibre, cm.	15	19				21				24		
Length in calibres	50	40	45	50	40	45	50	40	45	50		
Weight of gun, tons	7.3	11.8	13.6	15.2	16.7	18.5	20.4	22.5	25.5	29.1		
Weight of gun, kilos.	7400	12000	13800	15400	17000	18800	20750	22830	25970	29530		
Weight of light shot, lbs.	90.4	187.4	187.4	187.4	249.1	249.1	249.1	374.8	374.8	374.8		
Weight of light shot, kilos.	41	85	85	85	113	113	113	170	170	170		
Weight of heavy shot, lbs.	112.4	235.9	235.9	235.9	308.6	308.6	308.6	474.0	474.0	474.0		
Weight of heavy shot, kilos.	51	107	107	107	140	140	140	215	215	215		
Weight of charge, lbs.	35.7	59.3	66.8	72.7	74.3	84.2	91.5	108.0	119.0	133.4		
Weight of charge, kilos.	16.2	26.9	30.3	33.0	33.8	38.2	41.5	49	54	60.5		
Muzzle velocity, light shot, ft. secs.	3240	2835	3085	3205	2810	3010	3170	2765	2953	3135		
Muzzle velocity, light shot, m. secs.	987	864	925	976	857	918	968	843	900	956		
Muzzle velocity, heavy shot, ft. secs.	2905	2526	2705	2854	2526	2705	2854	2460	2625	2789		
Muzzle velocity, heavy shot, m. secs.	885	770	825	870	770	825	870	750	800	850		
Muzzle energy, ft.-tons	6570	10430	11975	13320	13650	15665	17025	19900	22630	25550		
Muzzle energy, m.-tons	2035.9	3283.7	3712.1	4128.1	4230.9	4856.9	5401.2	6164	7013	7917		
Penetration at muzzle, steel (de Marre's formula), inches	19.3	20.7	23.1	24.6	22.8	25.2	27.1	25.8	28.2	30.8		
Penetration at muzzle, steel (de Marre's formula), cm.	49.1	53.1	58.6	63.1	57.8	63.8	68.8	65.5	71.8	78.3		

GUNS—continued.

11-02			12-01			13-98			14-96		
28			30-5			35-5			38		
40	45	50	40	45	50	40	45	50	40	45	50
36-1	41-0	46-2	46-9	53-4	60-3	61-6	69-1	78-1	73-8	84-2	95
36630	41700	47050	47700	54300	61300	61620	70200	79300	75000	85500	96500
595-2	595-2	595-2	771-6	771-6	771-6	1212-5	1212-5	1212-5	1477-1	1477-1	1477-1
270	270	270	350	350	350	550	550	550	670	670	670
760-6	760-6	760-6	992-1	992-1	992-1	1565-3	1565-3	1565-3	1907	1907	1907
345	345	345	450	450	450	710	710	710	865	865	865
183-0	201-6	218-3	227-4	249-1	272	419	464	536	514-9	585-4	661-4
83	91-5	99	103-2	113	123	100	215	243	234	266	300
2780	2965	3150	2780	2970	3150	2789	2985	3130	2794	2979	3130
848	904	960	850	905	960	850	909	965	852	908	965
2460	2625	2789	2460	2625	2789	2460	2625	2789	2460	2625	2789
750	800	850	750	800	850	750	800	850	750	800	850
31800	36300	41000	41020	47270	53460	65660	74700	84350	80030	91060	102790
9891	11254	12705	12900	14680	16570	20355	23160	26145	24799	28216	31853
30-4	33-6	36-6	33-8	37-1	40-2	39-8	43-6	51	42-6	46-3	50-9
77-3	85-4	93-1	85-9	94-2	102-4	101-1	110-9	120-9	108-2	117-6	129-4

Regional Security Dynamics  
Their Impact on India

National Security -- National

Calibre.	Length of Bore in Calibres.	Calibre.	Weight of Gun.	Weight of Projectile.	At Muzzle.		
					Velocity.	Energy.	Penetration of Wrought Iron (Gavre Formula).
in.		cm.	lbs.	lbs.	ft.-secs.	ft.-tons	in.
1.457	50	3.7	120	1	2150	32	..
1.851	50	4.7	550	3	2400	120	..
2.244	50	5.7	960	6	2400	240	..
3	50	7.62	1900	13	2800	707	..
4	50	10.16	2.6 tons	33	2800	1,793	11.0
4	50	10.16	2.6	kilos. 14	3000	1,924	11.5
5	45	12.7	3.4	50	2600	2,343	11.3
5	50	12.7	4.75	50	3000	3,120	13.8
6	45	15.24	7.2	105	2600	4,920	16.9
6	50	15.24	8.4	105	2800	5,707	18.8
7	45	17.78	12.7	165	2700	8,338	22.0
7	50	17.78	14.5	165	2900	9,619	24.4
8	45	20.32	18.6	260	2800	14,460	29.2
8	50	20.32	22.8	260	2900	15,160	30.7
9.2	50	23.37	30.4	380	2900	22,200	35.8
10	45	25.4	35.4	515	2800	27,990	40.5
10	50	25.4	43.9	515	2900	30,020	42.6
12	45	30.48	53.8	870	2800	47,380	51.8
12	50	30.48	66.0	870	2900	50,720	54.4
14	35	35.56	57.4	1600	2150	53,190	50.4
14	45	35.56	70.3	1400	2600	65,700	56.4
18	30	45.72	60.0	2075	2150	66,490	49.4

Guns of 3-in. calibre or under are chambered for fixed ammunition calibre upward, and including the 6-in. L-45 gun, can be chambered to with the powder in cartridge bags, and the projectile separate from the chambered for loose ammunition. The breech mechanisms of all guns the larger guns are operated by the revolution (3 to 5 turns) of a crank. in turrets, and are of great weight at the breech in order to balance the

## GUNS.

At 3000 Yards Range.			At 3000 Yards Range.			Limiting Ranges beyond which Capped Armour Piercing Projectiles will not Penetrate Krupp Hard-Faced Armour of 12 In. and 7 In. Thickness.		Calibre.
Danger Space for Target 25 Ft. High.	Energy.	Penetration of Krupp Hard-Faced Armour by Capped Armour Piercing Projectiles with Normal Impact.	Danger Space for Target 25 Ft. High.	Energy.	Penetration of Krupp Hard-Faced Armour by Capped Armour Piercing Projectiles with Normal Impact.	12-In. Pl.	7-In. Pl.	
yds.	ft.-tons	in.	yds.	ft.-tons	in.	yds.	yds.	in.
..	..	..	..	..	..	..	..	1.457
..	..	..	..	..	..	..	..	1.851
..	..	..	..	..	..	..	..	2.244
..	..	..	..	..	..	..	..	3
320	890	..	..	..	..	..	..	4
362	980	..	..	..	..	..	..	4
253	1,996	..	..	..	..	..	..	5
371	1,514	..	..	..	..	..	..	5
313	2,970	7.0	60	1,307	4.2	..	2,870	6
374	3,478	7.7	71	1,543	4.6	..	3,890	6
358	5,426	9.2	74	2,600	5.9	..	6,062	7
422	6,263	10.1	87	1,948	4.8	..	7,063	7
410	9,869	12.3	92	5,457	8.5	3,240	10,420	8
441	10,616	12.9	100	5,885	8.9	3,950	11,235	8
302	15,760	14.9	107	9,350	10.8	7,237	15,311	9.2
429	21,080	17.2	106	13,160	12.8	9,075	max. range	10
453	22,671	18.0	114	14,394	13.6	10,000	"	10
439	36,794	21.7	114	24,008	16.9	14,560	"	12
476	39,990	23.0	123	26,495	17.7	15,596	"	12
244	44,060	22.3	70	33,650	18.7	max. range	"	14
362	50,420	24.8	105	39,840	20.7	"	"	14
235	52,750	21.1	63	36,365	16.7	15,100	"	18

with the powder and projectiles in brass cartridge cases. Guns from 3-in. use either fixed ammunition, or chambered to use loose ammunition powder. Guns above 6-in. calibre, and including the 6-in. L-45 gun, are up to 8-in. are operated by the single motion of a hand lever. Those of The 8-in., 10-in., and 12-in. L-50 guns and the 14-in. L-45 gun are for use long muzzles, so that a comparatively small barbette may be used,

Regional Security Dynamics  
Their Impact on India

National Security - National



# LIST OF DRY DOCKS

## EUROPE

### ENGLAND AND WALES

Beginning at the Scottish border, and travelling round, down the East and up the West Coast, to the Scottish border again.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Blyth	Blyth Shipbuilding Co. :	Ft.	Ft.	Ft.	Ft.
	No. 1 . . .	378	368	55	20 $\frac{1}{2}$
	No. 2 . . .	320	307 $\frac{1}{2}$	55	20 $\frac{1}{2}$
	No. 3 . . .	480	475	61	22 $\frac{1}{2}$
	No. 4 . . .	345	340	45	17 $\frac{1}{2}$
	No. 5 . . .	285	280	47	19
North Shields	Smith's Dock Co. :				
	No. 4 . . .	...	435	53	22
	No. 5 . . .	367	365	50	20 $\frac{3}{4}$
	No. 6 . . .	530	...	71	24
	No. 7 . . .	300	300	60	15

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
North Shields —con.	Smith's Dock Co.— con.	Ft.	Ft.	Ft.	Ft.
	Pontoon:				
	No. 7 (3000 tons)	335	...	57½	20
	No. 8 (6400 tons)	430	...	55	20
South Shields	Dock (Brigham & Cowan)	400	400	55	24
	Tyne Dock Engin- eering Co.:				
	No. 1	315	300	45	16½
	No. 2	280	275	46	18½
	Middle Dock Co.:				
	No. 1	301	...	43	18
	No. 2	330	...	45	17½
	No. 3	460	...	62½	23½
	Readhead's Dock	331½	331½	48	23½
	Holborn Dock	233	226	44	16
	Smith's High Docks:				
	No. 1	322	316½	42½	17½
	No. 2	305	304	40½	14½
	No. 3	410	410	50½	21
New- castle- on-Tyne (Jarrow, Hebburn, Wallsend)	Palmer's Shipbuild- ing Co. Dry Dock	440	440	70	18
	Patent Slip (1200 tons)	600	240 (cradle)	...	aft 18½
	Mercantile Dry Dock Co., Jarrow:				
	No. 1	425	425	60	21
	No. 2	362	362	50	21
	No. 3	450	450	60	23

Regional Security Dynamics  
Their Impact on India

National Security - National

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at entrance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
New-castle-on-Tyne —con.	Hebburn Dry Dock (Hawthorn, Leslie, & Co.)	Ft.	Ft.	Ft.	Ft.
	Hebburn Graving Dock (R. Stephenson & Co.)	460	460	68	19
	Wallsend Slipway and Engineering Co.'s Dry Dock	711	700	90	29
	Swan, Hunter, & Wigham Richardson Ltd., Dry Dock	553	544	66	25
	Dry Dock Pontoon: No. 1 (2000 tons)	550	550	76	26½
	No. 2 (3000 tons)	260	...	...	18
	Wallsend Patent Slipways: No. 1 (2000 tons)	300	...	...	20
	No. 2 (2000 tons)	1000	300 (cradle)	...	aft 23
	Willington: No. 1 (1200 tons)	1000	300 (cradle)	...	aft 25
	No. 2 (2500 tons)	580	210 (cradle)	33 (cradle)	aft 26
		620	310 (cradle)	41 (cradle)	aft 26
Sunder-land	Commissioners:				
	No. 1	441½	434	50½	19½
	No. 2	357½	352	60	16½
	Wear (S. P. Austin & Son)	306	306	45	15½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Sunder- land —cont.	Pontoon (3600 tons)	Ft. 360	Ft. ...	Ft. ...	Ft. 19
	Bridge (Robert Thompson & Son)	320	310	48	15½
	Sir J. Laing & Sons:				
	Deptford . . .	318½	318½	45	15
	Cornhill . . .	400	400	44	16½
Hartle- pool and West Hartle- pool	Jackson . . .	385½	373½	60	15
	Swainson . . .	350	341¾	49	16½
	West Harbour . .	376	370	56	16
	Central . . .	570	565	60	20
	Middleton . . .	380	360	48	21
Middles- borough	Smith's Dock Co., South Bank-on- Tees:				
	No. 10 . . .	552	550	67	26
	No. 11 . . .	452	450	67	26
	Tees Conservancy Commissioners, Cargo Fleet . .	576	555	50 (46)	15½
	Hydraulic Slip (Sir R. Dixon & Co.) (2000 tons) . .	400	258 (cradle)	44 (cradle)	16½ (for'd)
Hull	Central . . .	350	345	51	18
	Alexandra, No. 1 .	508	500	57	19
	Alexandra, No. 2 .	558	550	62	21½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Hull—con.	North-Eastern Rail- way Co. . . . .	Ft. 501	Ft. 460	Ft. 50	Ft. 22 $\frac{1}{4}$
	Patent Slips:				
	Earle's Shipbuild- ing and Engin- eering Co.'s:				
	No. 1 (1500 tons) . . . . .	750	270 (cradle)	...	aft 17 $\frac{3}{4}$
	No. 4 (2600 tons) . . . . .	800	330 (cradle)	...	aft 18 $\frac{1}{4}$
	Humber Iron Works (1500 tons) . . . .	600	285	...	aft 17
Goole	North Eastern Rwy.: Patent Slip (1400 tons) . . . . .	700	260 (cradle)	...	aft 17
	Aire & Calder Navi- gation:				
	Dry Dock No. 1	255	253	42 $\frac{1}{2}$	1 $\frac{1}{2}$
Grimsby	Great Central R. R. Co.:				
	Dry Docks:				
	No. 1 . . . . .	400	350	70	20
	No. 2 . . . . .	400	390	30	18
	No. 3 . . . . .	450	440	35	20

LIST OF DRY DOCKS: ENGLAND AND WALES 467

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Imming- ham	Graving Dock .	Ft. 740	Ft. 730	Ft. 56	Ft. 22
GreatYar- mouth	Fellowes': No. 2 . .	250	245	35	11½
Lowestoft	Great Eastern Rail- way Co.: Dry Dock .	240	240	47	13
Wyvenhoe	Dry Dock . .	235	...	35	14½
Tilbury	Port of London Authority:				
	No. 1 . .	846	846	70	35
	No. 2 . .	846	846	60	30
Graves- end and Northfleet	Alfred Tolhurst: Northfleet Dry Dock .	650	...	65	22
	NorthfleetPatent Slip (2000 tons)	500	...	...	...

Regional Security Dynamics  
Their Impact on India

National Security - National

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
London	North side of Thames—	Ft.	Ft.	Ft.	Ft.
	Union:				
	Upper . . .	334	328	46½	18½
	Middle . . .	352	350	44½	17
	Lower . . .	440	440	60	22
	Regent . . .	283½	277	50	20½
	Glengall . . .	345	340	43	18
	Cubitt Town . . .	362	362	50	18½
	Millwall . . .	444½	...	65	25
	Britannia . . .	...	302	47	18
	Royal Albert:				
	No. 1 . . .	510	501	62½	22
	No. 2 . . .	420	408	56½	22
	West India . . .	450	448	64	21
	East India . . .	290	290	55	17½
	Canal:				
	Lower . . .	295	294	61	19½
	Upper . . .	238	236	49	17½
	R. & H. Green, Ltd.:				
	Upper Yard . . .	335	335	62	17½
	New Yard . . .	497	497	65	22
	Thames Iron Works:				
	West . . .	475	472	64	25
	East . . .	335	335	46	21
	Poplar . . .	390	389	52½	20½
	South side of Thames—				
	Prince's . . .	255	255	42	18
	Horseferry . . .	225	225	42	19

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>London</b>					
—con.	South side—con.—	Ft.	Ft.	Ft.	Ft.
	Nelson .	370	370	68	25
	Metropolitan .	325	317	40	14
	Deptford Green	402½	400½	62	20
	Blackwall .	475	472	60	19
<b>Chatham</b>	H.M. Dockyard:				
	No. 2 Dock .	404½	...	63½	23½
	No. 3 Dock .	363½	...	63½	20½
	No. 4 Dock .	334½	...	62½	23½
	No. 5 Dock D .	491½	...	80	32½
	No. 6 Dock E .	457½	...	80	32½
	No. 7 Dock F .	457½	...	82½	33
	No. 8 Dock G .	457½	...	82	33
	No. 9 Dock .	656½	...	84	33½
<b>Sheerness</b>	H.M. Dockyard:				
	No. 1 Dock D .	253½	...	57½	25
	No. 2 Dock E .	251½	...	57½	25½
	No. 3 Dock F .	281	...	63½	25½
	No. 4 Dock G .	290	287	50½	19½
	No. 5 Dock H .	291	288	58	14½
	Floating Dock (32,000 tons).	680	650	144	40
<b>Ports- mouth</b>	H.M. Dockyard:				
	No. 1 Dock .	277	...	57	19½
	No. 2 Dock .	254½	...	64	23½

Regional Security Dynamics  
Their Impact on India

National Security - National



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Ports- mouth —con.	H.M. Dockyard— <i>con.</i> —	Ft.	Ft.	Ft.	Ft.
	No. 3 Dock .	287 $\frac{1}{2}$	...	67 $\frac{1}{2}$	26
	No. 4 Dock .	285 $\frac{1}{2}$	...	67 $\frac{1}{2}$	26 $\frac{3}{4}$
	No. 5 Dock .	259 $\frac{1}{2}$	...	55 $\frac{1}{2}$	19 $\frac{1}{2}$
	No. 6 Dock .	222 $\frac{1}{2}$	...	52 $\frac{3}{4}$	19 $\frac{1}{2}$
	No. 7 } Double	615 $\frac{1}{2}$	...	80 $\frac{1}{2}$	27 $\frac{1}{2}$
	No. 10 } Dock			89	27 $\frac{1}{2}$
	No. 8 Dock .	340 $\frac{1}{2}$	...	70	22 $\frac{1}{2}$
	No. 11 Dock .	427	...	69 $\frac{3}{4}$	27 $\frac{1}{2}$
	No. 12 Dock K.	500 $\frac{3}{4}$	...	80	33 $\frac{1}{2}$
	No. 13 Dock I.	563 $\frac{3}{4}$	559 $\frac{1}{2}$	82	34
	<sup>1</sup> No. 14 Dock H.	725	719	100	34
	No. 15 Dock G.	612 $\frac{1}{2}$	607 $\frac{1}{2}$	93 $\frac{1}{2}$	34
	No. 16 Dock .	1000	980	100	36
	Deep Dock D .	460 $\frac{1}{2}$	...	81 $\frac{3}{4}$	41 $\frac{1}{2}$
	North { B outer	467 $\frac{1}{2}$	...	81 $\frac{3}{4}$	42 $\frac{3}{4}$
	Lock { E inner			82	34
	South { C outer	467 $\frac{1}{2}$	458 $\frac{1}{2}$	81 $\frac{3}{4}$	41 $\frac{1}{2}$
	Lock { F inner			80	33 $\frac{1}{2}$
	New Lock .	1000	980	110	36
	Floating Dock, Fountain Lake (40,000 tons) .	700	680	150	40
	Floating Dock, Has- lar Creek (1000 tons) . . . .	...	250	50	28 (high)
	Town Camber Dry Dock . . . .	349 $\frac{1}{2}$	328	50	17 $\frac{1}{2}$

<sup>1</sup> Being enlarged.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
South- ampton	No. 1 . . . .	Ft. 400	Ft. 377	Ft. 66	Ft. 19½
	No. 2 . . . .	280½	236	51	14½
	No. 3 . . . .	520	495	80	24½
	No. 4 . . . .	477	448	56	22½
	Prince of Wales, No. 5 . . . .	750	705	91	32½
	Trafalgar, No. 6 .	897	875	100	35
	Northam Half Tide Dry Dock . . .	240	...	52½	12
	Northam Iron Works: Patent Slip (1000 tons) . . . .	620	244 (cradle)	60 (cradle)	aft 21
Plymouth	Millbay (Great West- ern) . . . .	464	452	80	22
Devon- port and Keyham	H.M. Dockyards: Devonport—				
	No. 1 (Basin) T.	305½	...	65	27½
	No. 2 (New Long) U. . . . .	485½	...	79½	31½
	No. 3 (New) V.	424½	...	74	34½
	No. 4 (North) W.	277½	...	64½	19
	Destroyer Dock .	298½	...	58	16½
	Keyham—				
	No. 5 (South) G.	355½	...	80	25½
	No. 6 (Middle) F.	307	...	80	22½
	No. 7 (Queen's) E.	418	...	80	26½
	South Lock En- trance:				
	A, outer } D, inner }	253	...	80	{ 35½ 33½

Regional Security Dynamics  
Their Impact on India

National Security - Nation

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Devon- port and Keyham —con.	H.M. Dockyards— con.—	Ft.	Ft.	Ft.	Ft.
	Keyham—				
	No. 8 Dock N..	670	666	95	36
	No. 9 (Double)				
	O. H. . .	745	...	95	36
	No. 10 (Double)				
Falmouth	P. J. . .	741	...	95	47½
	North Entrance				
	Lock K. Q. .	730	...	95	47½
Falmouth	Falmouth Dock Co.:				
	No. 1 . .	369	350	55	14
	No. 2 . .	550	537	71	20
Penzance	Dry Dock . . .	217	215	40	10
Appledore and Bide- ford	R. Cock & Sons:				
	Richmond Dry Dock . . .	320	314	50½	14
	Newquay Dry Dock . . .	288	288	44	13½
Avon- mouth	Pontoon Dock (3800 tons) . .	365	...	60	19
	Royal Edward Grav- ing Dock . . .	879	855	100	34

LIST OF DRY DOCKS: ENGLAND AND WALES 473

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Bristol	Albion Dry Dock .	Ft. 540	Ft. 540	Ft. 52	Ft. 15
	Great Western Dry Dock .	325	322	48	12 $\frac{1}{2}$
	Stothert's Dry Dock	305	300	57	14 $\frac{1}{2}$
Newport	Western :				
	No. 1 . . .	222	216	36	16
	No. 2 . . .	239	239	42 $\frac{1}{2}$	21
	No. 3 . . .	350	350	47 $\frac{1}{2}$	25
	Eastern . . .	375	...	57 $\frac{1}{2}$	24
	Alexandra . . .	523	500	50	20
	Channel Dry Dock :	786	775	65	28
	Tredegar . . .	712	712	65	28 $\frac{1}{2}$
Cardiff	Bute . . .	600	600	55	25 $\frac{1}{2}$
	Cardiff Ry. Co. .	600	576	60	23 $\frac{1}{2}$
	East Bute :				
	No. 1 . . .	408	408	48 $\frac{1}{2}$	19 $\frac{1}{2}$
	No. 2 . . .	400	...	45	19 $\frac{1}{2}$
	West Bute . . .	235	230	38	12 $\frac{1}{2}$
	Dry Dock (under construction) .	850	...	90	...
	Dry Dock (under construction) .	800	...	70	...
	Mount Stuart :				
	No. 1 . . .	440	430	52 $\frac{1}{2}$	27
	No. 2 . . .	420	420	52	27
	No. 3 . . .	550	550	66	28
	Junction . . .	419	419	60	19

Regional Security Dynamics and  
Their Impact on India

National Security - Nationalism

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Cardiff —con.	Channel . . . . .	Ft. 635	Ft. 618	Ft. 62½	Ft. 28
	Pontoon (Mercantile Pontoon Co.) (3500 tons) . . . . .	360	360	60	20
	Pontoon (Cardiff Channel Co.) (3000 tons) . . . . .	335	...	57½	21½
	2 Windsor Patent Slips (5000 tons) .	900	340 (cradle)	...	28
	Gridiron . . . . .	350	...	...	23¼
	Gridiron . . . . .	450	...	...	25
Penarth	Penarth Shipbuild- ing and Ship Re- pairing Co : Floating Dock (4500 tons) . . . . .	380	...	57	23
	Patent Slip (2450 tons) . . . . .	870	300 (cradle)	...	aft 28
	Gridiron . . . . .	374	...	45	aft 26
Barry	Barry Graving Docks: No. 1 . . . . .	784½	784½	55	24½
	No. 2 . . . . .	625	618	65	27½
	Commercial Dock .	867½	867½	54	26½
Port Talbot	Graving Dock Co. .	427½	427½	60	16¼

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Swansea	Villiers . . .	Ft. 280	Ft. 275	Ft. 40	Ft. 15
	Albion . . .	480	480	42½	16
	Cambrian . . .	270	265	41½	20
	Jersey . . .	270	270	45½	18½
	Central: No. 1 . . .	375	375	47	24
	No. 2 . . .	310	310	38	18
	Gridiron . . .	300	...	38	17
	Prince of Wales . . .	455	450	60	22¾
Pembroke	Allen's . . .	245	245	44½	11
	H. M. Dockyard No. 1 . . .	445½	...	75	24¾
Milford	Milford Dry Dock . . .	600	600	69½	34
Holyhead	Alexandra Dry Dock (L.&N.-W. Ry. Co.) . . .	414	401½	68½	20
	Board of Trade Dry Dock . . .	307	290	62¾	14
Liverpool	Langton: No. 1: Outer . . . } Inner . . . }	948	{ 448 500	60	24½
	No. 2: Outer . . . } Inner . . . }			60	24½
		948	{ 500 448	60	24½
				60	24½

Regional Security Dynamics  
Their Impact on India

National Security - National

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
		Ft.	Ft.	Ft.	Ft.
Liverpool — <i>con.</i>	Clarence:				
	No. 1:				
	Outer . . .	...	451	44 $\frac{1}{2}$	21 $\frac{1}{4}$
	Inner . . .	...	289	45	18 $\frac{1}{4}$
	No. 2:				
	Outer . . .	...	454	44 $\frac{1}{2}$	21 $\frac{1}{2}$
	Inner . . .	...	286	32 $\frac{1}{2}$	19
	Prince's . . .	...	283 $\frac{3}{4}$	44 $\frac{1}{2}$	20 $\frac{3}{4}$
	Canning, No. 1 . . .	...	436	35 $\frac{1}{2}$	15 $\frac{3}{4}$
	Canning, No. 2 . . .	...	482	35	17 $\frac{3}{4}$
	Queen's . . .	...	634	80	35
	Herculaneum, No. 1 . . .	...	758 $\frac{1}{2}$	60	22 $\frac{1}{6}$
	Herculaneum, No. 2 . . .	...	930	60	22
	Herculaneum, No. 3 . . .	...	768	59 $\frac{1}{2}$	22 $\frac{1}{2}$
	Herculaneum, No. 4 . . .	754	754	80	26 $\frac{1}{2}$
	Canada . . .	...	925 $\frac{1}{2}$	94	31 $\frac{1}{4}$
	Brocklebank . . .	804	799 $\frac{1}{2}$	93 $\frac{1}{2}$	31 $\frac{1}{2}$
	Clarence Gridiron . . .	...	313 $\frac{1}{2}$	...	21
	Gladstone . . .	1020	1020	120	47
Garston	Grayson's Dry Dock	400	...	75	20
Birken- head	West Float:				
	No. 1 . . .	...	930	59 $\frac{1}{2}$	23
	No. 2 . . .	...	750	48 $\frac{1}{2}$	26 $\frac{1}{2}$
	No. 3 . . .	...	750	85 $\frac{1}{2}$	26
	Cammell, Laird, & Co.:				
	No. 1 . . .	...	310	38	17
	No. 2 . . .	...	360	43	17

LIST OF DRY DOCKS: ENGLAND AND WALES 477

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance,	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Birken- head —con.	Cammell, Laird, & Co.—con.	Ft.	Ft.	Ft.	Ft.
	No. 3 . . .	...	448	75	25
	No. 4 . . .	...	440	85	25½
	No. 5 . . .	...	430	80	21
	No. 6 . . .	708	708	85	30½
	No. 7 . . .	861	861	95	33½
	Clover, Clayton, & Co.:				
	No. 1 . . .	420	420	85	20
	No. 2 . . .	226	226	31½	16
	No. 3 . . .	306	306	37	19
	No. 4 . . .	370	370	42	17
	No. 5 . . .	247	247	34½	15
	No. 6 . . .	400	400	85	20
Port Ellesmere	Pontoon (3000 tons)	300	300	54	17
Man- chester	Mode Wheel Dry Dock No. 1 . .	535	535	64½	22
	Dry Dock No. 2 .	425	415	64½	18
	Pontoon (2100 tons)	260	...	...	16
Fleet- wood	Gridiron (John Gib- son & Sons) . .	310	...	50	15½

Regional Security Dynamics  
Their Impact on India

National Security — National



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Barrow	New Dock (pro.) .	Ft. ...	Ft. ...	Ft. ...	Ft. ...
	Graving Dock .	515	487	60	22
	Depositing Dock .	242	242	40	17
	Two Gridirons .	270	...	...	...
White- haven	Patent Slip (1200 tons) (Whitehaven Shipbuilding Co.)	250	200 (cradle)	36½	aft 16½

## SCOTLAND

Beginning on the English border, and travelling round, up the West Coast and down the East Coast, to the English border again.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Ayr	Patent Slip (1600 tons) . . . .	Ft. 800	Ft. 260 (cradle)	Ft. 54 (cradle)	Ft. {10 14
Troon	Ailsa Shipbuilding Co. :				
	No. 1 . . .	298 $\frac{2}{3}$	284 $\frac{2}{3}$	37	13 $\frac{1}{2}$
	No. 2 . . .	374 $\frac{1}{2}$	368	48	16 $\frac{1}{2}$
Ardrossan	Dry Dock (cut in rock) . . . .	260	260	38	14 $\frac{1}{2}$
Greenock	Garvel Park . . .	635	635	60 $\frac{1}{2}$	20
	Corporation (East Harbour) . . .	360 $\frac{1}{2}$	356	38	11 $\frac{1}{2}$
	Corporation (West Harbour) . . .	223 $\frac{3}{4}$	220	34	9 $\frac{3}{4}$
	Caird & Co. . . .	242 $\frac{1}{2}$	242 $\frac{1}{2}$	45	15 $\frac{1}{2}$

Regional Security Dynamics and  
Their Impact on India

National Security - National

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Greenock</b> — <i>con.</i>	Cartsburn (Scott & Co.) . . . . .	Ft. 360	Ft. 335	Ft. 48	Ft. 13
	Patent Slip (2000 tons) (Ross & Marshall) . . . . .	400	130 (cradle)	22 (cradle)	aft 19
<b>Port-Glasgow</b>	Port-Glasgow Dry Dock . . . . .	325	320	45	14
	Patent Slip (1600 tons) . . . . .	755	280 (cradle)	...	aft 16
<b>Glasgow</b>	Clyde Trustees:				
	No. 1 . . . . .	570	551	72	22 $\frac{3}{4}$
	No. 2 . . . . .	575	575	67	22 $\frac{3}{4}$
	No. 3 . . . . .	880	880	83	26 $\frac{1}{2}$
	No. 4 (building) . . . . .	1020	1020	110	40
	D. & W. Henderson:				
	Dry Dock . . . . .	500	474	54 $\frac{1}{2}$	18
	Patent Slip (1000 tons) . . . . .	600	208 (cradle)	51	15
	J. Shearer & Sons:				
	Dry Dock . . . . .	524 $\frac{1}{2}$	524 $\frac{1}{2}$	68	20
	A. & J. Inglis:				
	Patent Slip (2000 tons) . . . . .	850	270 (cradle)	57	aft 17
<b>Aberdeen</b>	Graving Dock . . . . .	524	500	50	20

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Dundee	Old (West) . . .	Ft. 278	Ft. 250	Ft. 38 $\frac{3}{4}$	Ft. 13 $\frac{3}{4}$
	New (East) . . .	516	500	50 $\frac{3}{4}$	18 $\frac{3}{4}$
Rosyth	H.M. Dockyard:				
	No. 1 (bldg.) . .	850	...	110	36
	No. 2 „ . . .	850	...	110	36
	No. 3 „ . . .	900	...	110	36
Alloa and Grange- mouth	Alloa Dry Dock . .	210	205	37	13
	G'mouth Dry Dock	273	273	40	14
Granton	Patent Slip (950 tons) (Hawthorns & Co.). . . . .	320	236 (cradle)	40 (cradle)	aft 15
Leith	Edinburgh . . .	300	300	40	17 $\frac{1}{2}$
	Prince of Wales . .	410	382	60	21
	Alexandra . . .	330	330	48	19
	Commercial . . .	266	266	35	15 $\frac{1}{2}$
	New Dock . . .	550	...	70	24

## IRELAND

From Londonderry, travelling eastward round the island.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
London- derry	Londonderry Dry Dock . . .	Ft.	Ft.	Ft.	Ft.
		314	304	50	15 $\frac{3}{4}$
Belfast	No. 1 Graving Dock	252 $\frac{1}{2}$	245	27 $\frac{1}{2}$	9
	No. 2       "       "	299	287	32 $\frac{1}{2}$	10 $\frac{3}{4}$
	Hamilton       "	470	451 $\frac{1}{2}$	63 $\frac{1}{2}$	16 $\frac{1}{2}$
	Alexandra       "	825	800	80	25 $\frac{3}{4}$
	Dry Dock No. 1	887	850	96	35 $\frac{1}{2}$
	Dry Dock No. 2 (building) . . .	750	...	96	33
Dublin	North Wall No. 1 .	420	412	70	18 $\frac{1}{2}$
Queens- town and Haulbow- line	H.M. Dockyard (Haulbowline):				
	No. 1 Dock . .	640	609	94	32 $\frac{1}{2}$
	No. 2 Dock (building) . .	720	...	94	32 $\frac{1}{2}$
	Rushbrooke (oppo- site Monkstown) .	435	430	60	16
	Royal Victoria Dock (Passage West) .	370	365	82	21
Limerick	Limerick Dry Dock	428	396	46	17

## CONTINENT OF EUROPE

From the North, travelling round by the coast-line, to the Levant.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
RUSSIA Archangel	Murman Dry Dock	Ft. 378	Ft. ...	Ft. 50	Ft. 15
	Government Dry Dock . . .	308	...	49	...
NORWAY Tromsø	Patent Slip (1200 tons) . . .	500	200 (cradle)	...	aft 17½
Trond- hjem	Dry Dock :				
	No. 1 . . .	280	276	50	11½
	No. 2 . . .	309	305	55	12½
Kristian- sund	Patent Slip . .	210	200 (cradle)	...	aft 25
Bergen	Bergens, Mek. Werk- stad . . .	269½	265½	40	11½
	Laxevaags . . .	365	365	55	21½
	Dekkes . . .	250	250	40	12½

Regional Security Dynamics  
Their Impact on India

National Security - National

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Norway		Ft.	Ft.	Ft.	Ft.
—con.					
Bergen	Patent Slips:				
—con.	No. 1 (1400 tons).	700	220 (cradle)	32 (cradle)	aft 22
	Laxevaags (2000 tons) . . .	700	284 (cradle)	... "	aft 18
Stavanger	No. 1 . . .	295	272	43	10 $\frac{3}{4}$
	No. 2 . . .	224	224	43	12 $\frac{1}{4}$
Kristian- sand	Government Dry Dock . . .	320	309	42	19
Sande- fjord	Floating:				
	No. 1 (1600 tons)	237	...	52	15
	No. 2 (1000) .	156	...	52	15
	No. 3 (5000) .	360	...	65	21
Horten	Carl Johansvern's (Govt.) . . .	346	305	60 $\frac{1}{2}$	20 $\frac{1}{2}$
Kristiania	Akers Dry Dock .	280	271	43 $\frac{1}{4}$	14 $\frac{1}{2}$
	Akers Floating .	240	...	55	15
	Nylands Floating:				
	No. 1 { can be	200	...	47 $\frac{1}{2}$	15
	No. 2 { used	150	...	47 $\frac{1}{2}$	15
	No. 3 { together.	319 $\frac{1}{2}$	...	61	19

## LIST OF DRY DOCKS: EUROPE

485

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Norway		Ft.	Ft.	Ft.	Ft.
— <i>con.</i>					
Moss	Floating:				
	No. 1 { can be	142	...	46	...
	No. 2 { used	108	...	46	...
	together. }				
	.				
Fredrik- stad	Floating Dock	213½	...	55	17
SWEDEN					
Göthen- burg	Lindholmens Dock	420	405	58½	19½
(Göte- borg)	Patent Slips:				
	Lindholmens—				
	No. 1 (1000 tons)	540	220	38	aft 18
	Göteborg:		(cradle)	(cradle)	
	No. 1 (1500 tons)	660	226	37	aft 18
			(cradle)	(cradle)	
Helsing- borg	Helsingborg Dry Dock	284½	269	43½	13½
Malmö	Harbour Commis- sioners (Old)	236	236	34	12
	Harbour Commis- sioners (New)	518	508	79½	23½
	Patent Slip (1300 tons) (Kockums)	810	235	42	aft 14½



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs
		Over all.	At Bottom.		
Sweden — <i>con.</i> Sölves- borg	Dry Dock . . .	Ft. 285	Ft. 280	Ft. 45	Ft. 12
Karls- krona	Government (old):	...	225½	46	17½
	No. 1 . . .	216¾	182	46½	19½
	No. 2 . . .	294¾	253½	51¾	19½
	No. 3 . . .	221	192½	46½	20
	No. 4 . . .	234½	203	46½	20
	No. 5 . . .	283¾	203	46½	20
	Oscar II. . .	410	390½	68½	24½
Oscars- hamn	Oscarshamn Dry Dock, No. 1 .	355	344½	49	15
Norrköp- ing	Dry Dock . . .	243½	227¾	35½	9¾
Stock- holm	Admiralty . . .	425	413	58½	23
	East Dock . . .	340	325	52	17
	West Dock . . .	330	321½	35	13
	Finnboda Pontoon (2200 tons) . . .	243	...	...	18
	Finnboda Slip (1500 tons) . . .	800	225 (cradle)	...	aft 19
Gefle	Patent Slip (1250 tons) (Atlas) .	900	219	36½	aft 14¾

## LIST OF DRY DOCKS: EUROPE

487

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Sweden</b> — <i>con.</i> <b>Söder- hamn</b>	Patent Slip (1000 tons) . . . .	Ft. 500	Ft. 200 (cradle)	Ft. ... 	Ft. aft 19 
<b>RUSSIA</b> <b>Nystad</b>	Hydraulic Slipway (1200 tons) . . .	735	218 (cradle)	60 (cradle)	aft 19
<b>Helsing- fors</b>	Helsingfors Dry Dock (Oskar Ek- lund) . . . .	330	...	56	18½
<b>Kronstadt</b>	Peter Dock . . .	1058	...	62½	19½
	Nicolai Dock . .	522½	...	52	17½
	Constantine Dock .	487	...	71	27
	Alexander Dock . .	594	...	85½	28
	New Dock (bdg.) .	780	750	123	84
<b>Reval</b>	Floating Dock . .	200	...	52	...
<b>Riga</b>	Patent Slip (for vessels of 2000 tons register) . . .	740	212	70	aft 10

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs
		Over all.	At Bottom.		
<b>Russia</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Libau</b>	Floating, Govern- ment . . . . .	299	...	57	12
	Government No. 1.	600	...	85	30
	Government No. 2.	600	...	85	30
<b>GERMANY</b>					
<b>Pillau</b>	Iron Floating Dock	226	...	47	12 $\frac{3}{4}$
<b>Danzig</b>	Imperial Floating .	323 $\frac{1}{2}$	322	75 $\frac{1}{2}$	14 $\frac{1}{2}$
	Floating (Klawit- ter's) (2600 tons) .	245	237 $\frac{1}{2}$	54	16 $\frac{1}{2}$
<b>Stettin</b>	Vulcan Yard:				
	Floating No. 1 (5000 tons) . . .	416	...	58	17
	Floating No. 2 (2500 tons) . . .	309	300	47	14 $\frac{1}{2}$
	Oderwerke Floating:				
	Section A (1700 tons) . . . . .	165 $\frac{1}{4}$	165 $\frac{1}{4}$	52 $\frac{1}{2}$	15
	Section B (1300 tons) . . . . .	131 $\frac{1}{4}$	131 $\frac{1}{4}$	52 $\frac{1}{2}$	15
	Nüske & Co., Float- ing:				
	Section A (1700 tons) . . . . .	221	221	62	14 $\frac{1}{2}$
	Section B (1100 tons) . . . . .	99	99	72	14 $\frac{1}{2}$

## LIST OF DRY DOCKS: EUROPE

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Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Germany</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Rostock</b>	Floating Dock (3000 tons) . . . .	...	270	58	17
<b>Lübeck</b>	Koch's Floating Dock (1500 tons) .	220	220	46	14
	Floating (3000 tons)	278	278	59½	17½
<b>Kiel</b>	Government:				
	No. 1 . . . .	...	360	77¼	27½
	No. 2 . . . .	...	329	72	25½
	No. 3 . . . .	...	309	72	22½
	No. 4 . . . .	...	309	72	19½
	No. 5 . . . .	594	570	94	37
	No. 6 . . . .	594	570	94	37
	Government Float- ing . . . .	236½	236¾	50	25½
	New Govt. Floating (bldg.) . . . .	570	...	96	35
	Swentine Floating .	229½	...	66	25½
<b>Flensburg</b>	Pontoon Dock (2800 tons) . . . .	280	...	49	19
<b>DEN- MARK</b> <b>Copen- hagen</b>	Government: Dry Dock . . .	288½	273	59½	20½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Denmark</b>					
— <i>con.</i>	Government— <i>con.</i>	Ft.	Ft.	Ft.	Ft.
<b>Copen- hagen</b>	Patent Slip (1870 tons) .	412	192 $\frac{1}{2}$ (cradle)	23 (cradle)	aft 20 $\frac{3}{4}$
— <i>con.</i>	Burmeister & Wain :				
	Dry Dock .	469 $\frac{1}{2}$	450	65	23 $\frac{1}{2}$
	Floating .	492	480	77	25
	Patent Slips :				
	No. 1 (2000 tons)	350	247 (cradle)	55 (cradle)	aft 17
	No. 2 (2000 tons)	350	247 (cradle)	55 (cradle)	aft 17
	No. 3 (2500 tons)	350	309 (cradle)	55 (cradle)	aft 19
	Copenhagen Float- ing Dock and Wharfs Co. Float- ing Dock (2900 tons) .	296	296	50	17
	Old Dry Dock .	260	246	52	15 $\frac{1}{2}$
<b>Elsinore</b>	Dry Dock No. 1 .	350	338	43	14
	Dry Dock No. 2 .	379	372	54	18
<b>GERMANY</b>					
<b>Brunns- büttel</b>	Government :				
	No. 1 (bldg.) .	1083	1000	148	36
	No. 2 (bldg.) .	1083	1000	148	36

## LIST OF DRY DOCKS: EUROPE

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Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Germany</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Hamburg</b>	Blohm & Voss's Floating:				
	No. 1 (3000 tons)	320	320	52	18
	No. 2 (4500 tons)	350	350	60½	18
	No. 3 (17,000 tons)	580	580	89	28
	No. 4 (17,500 tons)	605	605	89	25
	No. 5 (22,500 tons)	756	756	88½	36
	Wichorst's Dry Dock	400	400	50	16
	Vulcan Floating (36,000 tons)	722	722	108½	32½
	Vulcan Floating (6000 tons)	434	400	70	18
	Vulcan Floating (11,000 tons)	510	510	82	22
	H. C. Stülcken:				
	Floating (5800 tons)	310	310	58	18
	Floating (5800 tons)	460	460	60	17
	Floating (1000 tons)	210	210	45	13
	Reiherstieg Floating:				
	No. 1 (5000 tons)	340	340	64	19
	No. 2 (11,500 tons)	508	...	84	22
	Brandenburg Float'g	467½	467½	64	19
	A. G. Stülcken:				
	Patent Slip (1050 tons)	509	240 (cradle)	...	aft 20

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Germany</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Hamburg</b> — <i>con.</i>	Patent Slip (side ways) . . .	360	360 (cradle)	...	20
<b>Bremer- haven</b>	Seebeck's: No. 1 . . . No. 2 . . . No. 3 . . . No. 4 . . . Nord Deutsche } Lloyd's Graving } Kaiser Dry Dock .	550 { 210 175 } { 270 190 } { 360 240 } { 450 } { 370 } 754½	550 { 210 175 } { 270 190 } { 360 240 } ... 741½	65 45 52½ 54 56½ 98½	21 17 17½ 20 19½ 35½
<b>Geeste- münde</b>	Graving Dock . Wasserbau Dry } Dock. . . } Seebeck's: No. 1 . . . No. 2 . . .	{ 393 230 } { 335 185 } 547 547	{ 382 } { 223 } { 335 } { 185 } 522 522	45½ 40½ 80 80	16 14 18 18
<b>Brake</b>	Gebruder Thyen: No. 1 . . .	343½	343½	42	13

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Germany</b>					
— <i>con.</i>					
<b>Hammel- warden</b>	Graving Dock	Ft. 230	Ft. 227	Ft. 39½	Ft. 13
<b>Bremen</b>	Floating (3000 { tons) . . . . . Floating (12,000 tons)	134½ 196½ 490	134½ 196½ 490	46 49½ 90	18½ 18½ 23
<b>Wilhelms- haven</b>	Government: No. 1 . . . . No. 2 . . . . No. 3 . . . . No. 4 . . . . No. 5 . . . . No. 6 . . . . Lock (can be used as a dock) Floating (35,000 tons), bldg. .	438 438 370 625 625 594 853 ... ...	410 410 354 584 570 570 822 ... ...	72 72 61½ 101 98½ 94 131½ ... ...	27½ 27 22 35 35 32 34 ... ...
<b>Emden</b>	Floating Docks: No. 1 (3440 tons) No. 2 { (3000 tons) (2250 tons)	234½ 180½ 134½	234½ ... ...	59 59	18 17
<b>HOLLAND</b>					
<b>Helder and Willen- soord</b>	Netherlands' Govt. Dockyard (stone): No. 1 . . . . No. 2 . . . .	390½ 288½	374½ 273½	63½ 59½	18 16



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Holland</b> — <i>con.</i> <b>Amster- dam</b>	Floating Docks: Koninginne . . . Koning . . . Wilhelmina . . . Juliana . . . No. 1 . . .	Ft. 401 $\frac{3}{4}$ 402 424 $\frac{1}{3}$ 460 201	Ft. 401 $\frac{3}{4}$ 402 424 $\frac{1}{3}$ 460 201	Ft. 63 $\frac{1}{3}$ 56 78 $\frac{1}{3}$ 92 62 $\frac{2}{3}$	Ft. 17 $\frac{1}{4}$ 15 20 21 13 $\frac{1}{4}$
<b>Rotter- dam</b>	City of Rotterdam: Iron Floating: No. 2 (4000 tons) No. 3 (6000 tons) Steel Pontoon: No. 4 (15,600 tons) . . . Steel Pontoon (7500 tons) . . . Prins Hendrik Floating: No. 1 (7500 tons) No. 2 (3000 tons) Patent Slip (3000 tons) . . .	295 361 588 424	295 361 588 424	68 $\frac{3}{4}$ 68 $\frac{3}{4}$ 95 70	20 21 25 22 $\frac{3}{4}$
		436 300 855	... ... (300 cradle)	70 50 ...	22 20 aft 26 $\frac{1}{2}$
<b>Dordrecht</b>	Patent Slip (2000 tons) (sideways) .	393 $\frac{1}{2}$	393 $\frac{1}{2}$ (cradle)	...	...
<b>Hellevoet- sluis</b>	Netherlands' Govt. Dockyard (brick) .	500 (in 2 sec- tions)	477 $\frac{1}{3}$	53 $\frac{3}{4}$	18 $\frac{3}{4}$

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Holland</b> — <i>con.</i> <b>Flushing</b>	Dry Dock . . .	Ft. 243 $\frac{1}{2}$	Ft. 243 $\frac{1}{2}$	Ft. 52	Ft. 13
<b>Middel- burg</b>	Prins Hendrik . .	...	420	66	15
<b>BELGIUM</b> <b>Antwerp</b>	J. Cockerill's . .	400	372	41	17 $\frac{1}{2}$
	Cales et Chantiers .	330	330	42	14
	300	280	36	13	
	City Docks:				
	No. 1 . . .	506	459	81 $\frac{1}{2}$	23
	No. 2 . . .	248	213	39 $\frac{1}{2}$	14
	No. 4 . . .	440 $\frac{1}{2}$	403 $\frac{1}{2}$	49 $\frac{1}{2}$	16
	No. 5 . . .	440 $\frac{1}{2}$	403 $\frac{1}{2}$	49 $\frac{1}{2}$	16
	No. 6 . . .	440 $\frac{1}{2}$	403 $\frac{1}{2}$	49 $\frac{1}{2}$	16
<b>Ghent</b>	Dry Docks:				
	No. 1 . . .	446	393 $\frac{3}{4}$	42 $\frac{3}{4}$	18
	No. 2 . . .	255	220	36	15
<b>FRANCE</b> <b>Dunkirk</b>	Dry Docks:				
	No. 1 . . .	368	352	45 $\frac{3}{4}$	21
	No. 2 . . .	366	352	45 $\frac{3}{4}$	26 $\frac{1}{2}$
	No. 3 . . .	295	282	45 $\frac{3}{4}$	21
	No. 4 . . .	625	606	68 $\frac{3}{4}$	26 $\frac{1}{2}$

## LIST OF DRY DOCKS: EUROPE

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
France — <i>con.</i>					
Calais	Dry Dock . . .	Ft. 508½	Ft. 426½	Ft. 69	Ft. 28½
Boulogne	Floating Dock (1000 tons) . . .	236½	...	62½	...
	Gridiron (1500 tons)	316	...	27½	15½
Dieppe	Dry Dock . . .	361	320	59	26½
Havre	Docks:				
	No. 1 . . .	249½	198	36	18½
	No. 2 . . .	234½	190	42½	20½
	No. 3 . . .	288½	240½	52½	22
	No. 4 . . .	674½	623½	98½	28½
	No. 5 . . .	621½	515	65½	28½
	No. 6 . . .	500	393½	53	25½
Cher- bourg	Government:				
	No. 1 . . .	360	317½	62½	32½
	No. 2 . . .	393	350½	62½	32½
	No. 3 . . .	390½	350½	62½	32½
	No. 4 . . .	360	317½	62½	32½
	No. 5 . . .	656	608	93½	39½
	No. 6 . . .	...	606½	69½	29½
	No. 7 . . .	265	237½	59	20½
	No. 8 . . .	257½	219	59½	20½
	Commercial . . .	259	223	45½	19½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
France — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
Granville	Dry Dock . .	223	...	46½	22¾
Paimpol	Dry Dock . .	229½	187	36	4½
Brest	Government:				
	No. 1 } Double	}	574½	70½	35½
	No. 3 } Dock				
	No. 2 } Double	}	518½	91½	35½
	No. 4 } Dock				
	No. 5 . .	...	377½	66½	35½
	No. 6 . .	...	223	47½	16
	No. 7 } Double	}	410	87½	35½
	No. 8 } Dock				
	No. 9 . .	...	387	66½	35½
	New Dock . . (pro.)	656	118	36	36
	Floating Dock for Torpedo Boats . .	...	262½	32½	...
	Town Dry Dock .	737	...	114	34
Lorient	Government:				
	No. 1 . .	380½	377½	56½	20½
	No. 2 . .	620	608½	86½	29½
	No. 3 (pro.) .	620	608½	92	32

st.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
France					
— <i>con.</i>					
St. Nazaire	Compagnie General Transatlantic:	Ft.	Ft.	Ft.	Ft.
	No. 1 . . .	738 $\frac{1}{2}$	731 $\frac{1}{2}$	98 $\frac{1}{2}$	28 $\frac{3}{4}$
	No. 2 . . .	393 $\frac{3}{4}$	385 $\frac{1}{2}$	42 $\frac{3}{4}$	16 $\frac{1}{2}$
	No. 3 . . .	557 $\frac{3}{4}$	557 $\frac{1}{4}$	59	28
Paimbœuf	Dry Dock . . .	260	230	42 $\frac{3}{4}$	14 $\frac{3}{4}$
Nantes	Patent Slip (1800 tons) . . .	328	311 $\frac{3}{4}$ (cradle)	...	aft 16 $\frac{1}{2}$
La Rochelle	No. 1 . . .	590 $\frac{1}{2}$	553	72	30 $\frac{1}{2}$
	No. 2 . . .	364	328	45 $\frac{1}{2}$	27 $\frac{1}{2}$
	Gridiron . . .	247 $\frac{1}{2}$	...	32 $\frac{1}{2}$	16 $\frac{1}{2}$
Rochefort	Government:				
	Double { No. 1 . . .	...	187	44 $\frac{1}{2}$	16 $\frac{1}{2}$
	Dock { No. 2 . . .	...	252 $\frac{1}{2}$	44 $\frac{1}{2}$	16 $\frac{1}{2}$
	Large Dock (No. 3)	...	488 $\frac{3}{4}$	67 $\frac{1}{2}$	...
	Old Dock (Com- mercial) . . .	246	246	50	15 $\frac{1}{2}$
Bordeaux and Lormont	Dry Docks:				
	No. 1 . . .	505 $\frac{1}{2}$	496 $\frac{1}{2}$	72	23
	No. 2 . . .	351	328	52 $\frac{1}{2}$	23
	New Dock . . .	594	587 $\frac{1}{4}$	108 $\frac{1}{4}$	33
	Patent Slip (Broad- side, 3000 tons, Lormont) . . .	400	393	42	17
			(cradle)	(cradle)	

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
France — <i>con.</i>					
Bayonne	Dry Dock . . .	Ft. 302	Ft. 289	Ft. 46 $\frac{1}{4}$	Ft. 16 $\frac{1}{2}$
SPAIN					
Bilbao	Euscalduna Graving:				
	No. 1 . . .	330	330	50 $\frac{3}{4}$	12 $\frac{1}{4}$
	No. 2 . . .	320	320	61 $\frac{1}{4}$	13
	No. 3 . . .	614 $\frac{1}{2}$	605	60	25
	Dry Dock . . .	426	415	73 $\frac{3}{4}$	21 $\frac{1}{4}$
Santander	Dry Dock . . .	445	432	57	23 $\frac{1}{2}$
Gijon	Dry Dock (Cifuentes, Stoldt, & Co.) . .	288	244	46	12
Ferrol	Government: San Julien . . . New Dock (big) . .	437 $\frac{1}{2}$ 600	405 ...	88 $\frac{1}{4}$ 100	29 $\frac{1}{2}$ 37
PORTU- GAL					
Lisbon	Royal Dockyard . . Government: No. 1 . . . No. 2 . . . H. Parry & Son: Cacilhas, No. 1 . .	258 607 377 $\frac{1}{2}$ 225	233 $\frac{1}{2}$ 549 328 $\frac{1}{2}$ 216	56 $\frac{3}{4}$ 82 49 $\frac{1}{2}$ 37	15-19 32 $\frac{3}{4}$ 27 8-12

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
		Ft.	Ft.	Ft.	Ft.
SPAIN					
Cadiz	Government:				
	No. 1 . . .	259 $\frac{1}{2}$	237	54 $\frac{1}{2}$	22
	No. 2 . . .	371 $\frac{1}{2}$	328 $\frac{1}{2}$	70 $\frac{1}{2}$	22 $\frac{1}{2}$
	No. 3 . . .	219 $\frac{1}{2}$	192 $\frac{1}{2}$	50	16 $\frac{1}{2}$
	No. 4 . . .	492	...	...	33
	Cia. Transatlantica	511 $\frac{3}{8}$	492	64	23
GIBRAL- TAR					
Gibraltar	H.M. Dockyard:				
	No. 1 Double Dock . . .	863	851 $\frac{1}{4}$	95	38 $\frac{1}{4}$
	No. 2 Dock . . .	563	552	95	38 $\frac{1}{4}$
	No. 3 Dock . . .	463	451	95	38 $\frac{1}{4}$
	No. 4 Dock . . .	261	251	46	14 $\frac{1}{2}$
SPAIN					
Cartagena	Government Float- ing (6000 tons) . .	319 $\frac{3}{8}$	...	79	28 $\frac{1}{2}$
	Dry Dock . . .	492	429 $\frac{3}{4}$	98 $\frac{1}{2}$	31 $\frac{3}{8}$
Barcelona	Floating and De- positing Dock (6000 tons) . . .	...	367	68	20

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
		Ft.	Ft.	Ft.	Ft.
FRANCE Mar- seilles	Cie des Docks et Entrepôts:				
	No. 1 . . .	595½	566	61½	22½
	No. 2 . . .	361	345½	62½	19½
	No. 3 . . .	295½	280	54½	19½
	No. 4 . . .	295½	280	54½	19½
	No. 5 . . .	426½	411½	45	21½
	No. 6 . . .	426½	411½	45	21½
	No. 7 . . .	669½	...	82	29½
La Ciotat	Cie des Messageries Maritimes . . .	528½	513½	70½	20
Toulon and La Seyne	Arsenal Principal:				
	No. 1 . . .	247	241½	53	18½
	No. 2 . . .	245	229½	57½	18½
	No. 3 . . .	292½	275½	60½	23½
	Arsenal de Castig- neau:				
	No. 1 . . .	325	293½	70½	27½
	No. 2 . . .	385½	366½	70½	27½
	No. 3 . . .	535	505½	75½	27½
	Arsenal de Missiessy:				
	No. 1 . . .	427	419½	93½	30½
	No. 2 . . .	427	419½	93½	30½
	No. 3 . . .	535	574½	93½	30½
	No. 4 (building)	...	...	...	...



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs
		Over all.	At Bottom.		
<b>France</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Toulon</b> <b>and La</b> <b>Seyne</b> — <i>con.</i>	Forges et Chantiers de la Méditerranée (La Seyne): Electric Slipway (1500 tons) . Electric Slipway (2000 tons) . Hydraulic Slip- way (4000 tons)	492 590 656	... ... ...	... ... ...	... ... ...
<b>Ville- franche</b>	Dry Dock . . .	203	189½	28¼	9
<b>ITALY</b>					
<b>Genoa</b>	Bacino di Darsena . No. 1 . . . No. 2 . . . Floating (2900 tons)	267½ 571 702 257	263½ 561 695 ...	78¾ 81¾ 60¾ 46 (avail- able)	22 30½ 28 17
<b>Spezia</b>	Dry Dock— No. 1 . . . No. 2 . . . No. 3 . . . No. 4 . . . No. 5 . . . No. 6 . . .	354½ 428½ 428½ 354½ 702 504½	341½ 409½ 409½ 341½ 687 491	70¾ 76½ 76½ 71½ 105½ 90½	29 29½ 29½ 29 33 32¾

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Italy					
— <i>con.</i>					
Leghorn	Orlando Bros. . . . .	Ft. 451	Ft. 436	Ft. 71½	Ft. 23
	2 Patent Slips (1500 tons) . . . . .	280	250 (cradle)	...	aft 24
Naples	Govt. Dockyard . . . . .	246½	240½	62½	21½
	Municipal No. 1 . . . . .	659½	645	95	33½
	Municipal No. 2 . . . . .	348½	...	60	23
Messina, Sicily	Government . . . . .	342½	335	71½	26
Palermo	Patent Slip (1500 tns)	480	234 (cradle)	40 (cradle)	aft 14
	Dry Dock . . . . .	565	562½	85½	27½
MALTA					
Valetta	H.M. Dockyard:				
	Nos. 1-2 } Outer.	255½	255½	81½	25
	Double } Inner.	300½	270½	73	25
	Dock				
	No. 3 Somerset				
	Dock . . . . .	471½	427½	80	33½
	No. 4 Hamilton				
	Dock . . . . .	538½	520	94	35½
	Nos. 5-6 } Outer.	440	440	95	35½
	East } Inner.	336½	330	95	35½
	Double } Dock				

## LIST OF DRY DOCKS: EUROPE

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Malta</b> — <i>con.</i> <b>Valetta</b> — <i>con.</i>	H.M. Dockyard — <i>con.</i> No. 7 West Single Dock Pontoon (1000 tons)	Ft.  556 345½	Ft.  550 ...	Ft.  95 60½	Ft.  35½ 18¼
<b>ITALY</b> <b>Taranto</b>	Govt. Dockyard: Principe de Na- poli, stone (2 sections) Floating Dock (4800 tons)	708¾ 365	690¾ 365	108¼ 61	32¼ 25
<b>Venice</b>	Govt. Dockyard: No. 1 No. 2 No. 3 (proposed) No. 4 (building)	524¾ 295 780 656	488¾ 272¼ ... 640	78 58½ ... 105	25½ 19½ 32 38½
<b>AUSTRIA- HUNGARY</b> <b>Trieste</b>	Austrian Lloyd's: No. 1 No. 2 San Rocco	456 360 414	450 ... 394	73 54 66	19 18¾ 21

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Austria- Hungary</b>		Ft.	Ft.	Ft.	Ft.
— <i>con.</i>					
<b>Trieste</b>	Floating Dock (2000 tons) . . . .	196 $\frac{2}{3}$	196 $\frac{2}{3}$	55 $\frac{1}{2}$	...
— <i>con.</i>	Floating Dock (1500 tons) . . . .	...	200	55 $\frac{1}{2}$	...
<b>Pola</b>	Govt. Dockyard:				
	No. 1 . . . .	453 $\frac{1}{4}$	405 $\frac{1}{2}$	76 $\frac{1}{2}$	27 $\frac{1}{2}$
	No. 2 . . . .	396 $\frac{2}{3}$	342 $\frac{1}{2}$	86 $\frac{1}{2}$	31 $\frac{3}{8}$
	Floating, Old (2500 tons) . .	300	...	83	20
	Floating Dock, No. 1 (22,500 tons) . . . .	584	...	111 $\frac{1}{2}$	37
	Floating Dock, No. 2 (15,000 tons) . . . .	459 $\frac{1}{2}$	...	83 $\frac{1}{2}$	32 $\frac{1}{2}$
<b>Fiume</b>	Floating (1300 tons)	229 $\frac{2}{3}$	...	49 $\frac{1}{2}$	20
	Floating (3750 tons), pro. . . . .	247 $\frac{1}{3}$	...	65 $\frac{1}{2}$	22
<b>GREECE</b>					
<b>Piræus</b>	Govt. Floating (3000 tons) Salamis Bay	311 $\frac{1}{2}$	...	59 ( <i>ex</i> )	23
	Dry Dock, No. 1 . .	483 $\frac{1}{2}$	460	69 $\frac{3}{4}$	29 $\frac{2}{3}$
	Dry Dock, No. 2 . .	341	320 $\frac{1}{2}$	51	25 $\frac{1}{2}$
	Patent Slip, Marine Railways:				
	No. 1 (3500 tons)	612	336 (cradle)	...	aft 21

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs
		Over all.	At Bottom.		
<b>TURKEY</b>					
<b>Constanti- nople</b>	Government:	Ft.	Ft.	Ft.	Ft.
	No. 1 . . .	400	380	72	35
	No. 2 . . .	285	280	62	29
	No. 3 . . .	500	480	62	29
<b>ROUM- ANIA</b>					
<b>Galatz</b>	Floating in 2 sec- tions (2400 tons) .	264 $\frac{1}{3}$	...	55 $\frac{2}{3}$	16 $\frac{1}{2}$
<b>RUSSIA</b>					
<b>Odessa</b>	Floating Dock (4800 tons) . . .	381	...	63	19 $\frac{1}{2}$
	Patent Slip (1000 tons) . . .	250	210 (cradle)	...	9
	...				
<b>Nicolaieff</b>	Slip Dock (1200 tons) (Morton's patent) .	511	180 (cradle)	...	aft 21 $\frac{1}{2}$
	Floating Dock (blg.), (40,000 tons) .	656	656	136 $\frac{1}{2}$	35

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Russia</b> — <i>con.</i> <b>Sevasto- pol</b>		Ft.	Ft.	Ft.	Ft.
	Government Dock- yard:				
	Alexandrovsky	620	487	85	32
	Alexievsky .	482	445	85	28
	Depositing sec- tional (5000 tons) . . .	280	...	72	18
	Patent Slip (1500 tons) (Russian Steam Navigation Co.) . . . .	415	250 (cradle)	...	aft 23

## ASIA

With Japan and Java, Straits Settlements,  
and Sumatra

From Kamtschatka, travelling south and west, round  
to the Suez Canal.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>SIBERIA</b>					
<b>Vladivos- tock</b>	Government: Floating Dock (8000 tons) . Czarevitch Nich- olas Dry Dock . Dry Dock . New Dock (bldg.)	Ft. 301 572 635½ 700	Ft. 301 512 618½ 660	Ft. 74½ 90 90 100	Ft. 26 30 34½ 34
<b>JAPAN</b>					
<b>Hakodate</b>	Dry Dock . . . Dry Dock (bldg.) . Patent Slip (1400 tons) . . . . .	531½ ... 730	480½ ... 205 (cradle)	81½ ... ...	30½ ... 29
<b>Kure</b>	Government Docks: No. 1 . . . No. 2 . . . No. 3 (bldg.) .	464 ... 676	413½ 485½ 666	79½ 93½ 100	28½ 35½ 34

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at entrance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Japan		Ft.	Ft.	Ft.	Ft.
—con.					
Nagasaki	Mitsu Bishi Co. :				
	Tategami, No. 1	528	510	89	26½
	Mukaijima, No. 2	375	360	66	23½
	Dry Dock, No. 3	722	714	96½	34½
	Patent Slip (1200 tohs), wood (Y. Iwasaki)	750	228	30	12
	Matsu Iron Works Co.	320	(cradle) 310	(cradle) 48	17
Sasebo	Government. (stone):				
	No. 1	...	435	...	...
	No. 2	...	377	...	...
	No. 3	...	538	...	...
	Govt. Floating (1500 tons)	...	280	38	11½
Hiogo and Kobe	Kawasaki Shipbuilding Co. :				
	Patent Slip—				
	No. 1 (2000 tons)	900	250 (cradle)	...	24½
	Dry Dock	428	...	60	24
	Mitsu Bishi Co. :				
	No. 1 Floating (7000 tons)	412½	387½	60	22½
	No. 2 Floating (12,000 tons).	532	505	70	26



Name of Port.	Docks, etc: (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Japan — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
Osaka	Dry Dock (Osaka Iron Works) . . .	259	255	33	12½
	Temposan: No. 3 . . .	288	256½	44	13½
	Kizugawa Senkla, wood . . .	210	210	36	12½
	Nagata Sanjuro, wood: No. 1 . . .	245	230	38	12½
Yoko- suka	Governmt. (stone): No. 1 . . .	357½	298	82	21½
	No. 2 . . .	452½	447	94½	29
	No. 3 . . .	282½	261½	45½	18
	No. 4 . . .	541½	538½	98½	32
Uraga	Ishikawajima S.B. and Eng. Co.: No. 1 . . .	497	482½	70	25½
	No. 2 . . .	456½	448½	65½	24½
Tokio	Ishikawajima, wood (Tokio Shipbuild- ing Yard) . . .	299	270 (floor)	41½	12
Toba	Toba Iron Works . .	247	245	42	13½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Japan</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Yoko- hama</b>	Yokohama Dock Co.:				
	No. 1 . . .	530 $\frac{3}{4}$	483 $\frac{1}{2}$	93 $\frac{1}{2}$	27 $\frac{3}{4}$
	No. 2 . . .	400 $\frac{1}{2}$	375	60 $\frac{3}{4}$	26 $\frac{1}{2}$
	No. 3 . . .	481	...	66 $\frac{3}{4}$	21 $\frac{1}{2}$
<b>PORT ARTHUR</b>	Japanese Govt.:				
	No. 1 . . .	400	370	72	30
	No. 2 (bldg.) .	540	500	92 $\frac{1}{2}$	32
<b>Dairen (Dalny)</b>	Japanese Govt.:				
	Dry Dock . .	422	381	43	19 $\frac{1}{2}$
<b>CHINA Taku</b>	Chinese Govt. (Taku Dockyard) . .	360	335	40	12
	Taku Tug and Lighter Co.:				
	No. 1 . . .	335	315	36	8
	No. 2 . . .	300	275	30	10
	No. 3 . . .	...	300	28	10 $\frac{1}{2}$
	No. 4 . . .	...	300	40	10 $\frac{1}{2}$
<b>TSING- TAU</b>	Floating Dock (16,000 tons) .	410	...	100	30

## LIST OF DRY DOCKS: ASIA

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
CHINA Shanghai	Kiangnan (Pro- vincial Govt.)	Ft.	Ft.	Ft.	Ft.
	The Shanghai Dock and Engineering Co. Ltd.:	390	376	70	19
	New Dock	473	450	74	21½
	Cosmopolitan Dock	560	532	77½	24
	Old Dock	400	399	53	16
	Tunkadoo Dock	362	350	67	16
	International Dock	540	528	77½	23
	Yangtzepoo Dock	460	...	74	21
Amoy	New Amoy Dk. Co.	360	340	60	16½
Whampoa	Cooper Dock	430	...	65	16
	Locksun Dock	450	...	75	18
HONG- KONG	H.M. Dockyard:				
	No. 1 Dock	568	554½	95	39½
	Hong-Kong Dock Co.:				
	No. 1	700	700	86	30
	No. 2	394	370	74	18½
	No. 3	265	264	49½	14
	Cosmopolitan	468	466	85½	20

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Hong- Kong —con.	Aberdeen Docks:	Ft.	Ft.	Ft.	Ft.
	Hope . . .	432 $\frac{1}{2}$	432 $\frac{1}{2}$	84	23 $\frac{3}{4}$
	Lamont . . .	334	333	64	15 $\frac{1}{4}$
	Patent Slip, No. 1 (1200 tons) . . .	700	240 (cradle)	39 (cradle)	21
	Patent Slip, No. 2 (1000 tons) . . .	600	200 (cradle)	37 (cradle)	15
	Quarry Bay:				
	Dry Dock . . .	787	750	86 $\frac{1}{2}$	31
	Patent Slip No. 1 (2700 tons) . . .	1030	250 (cradle)	...	25
	Patent Slip No. 2 (2000 tons) . . .	993 $\frac{1}{2}$	230 (cradle)	...	24
	Patent Slip No. 3 (2000 tons) . . .	993 $\frac{1}{2}$	230 (cradle)	...	24
TONKIN Saigon	French Government:				
	Dry Dock . . .	530	...	72	30
	Small Dock (in 2 sections) . . .	236	...	32 $\frac{1}{2}$	12
	Floating Dock (10,000 tons) (bldg.) . . .	400	...	66	...

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
India					
—con.		Ft.	Ft.	Ft.	Ft.
Calcutta	Port Commissrs. :				
—con.	No. 1 . . .	535	520	67	23½
	No. 2 . . .	...	450	67	24
Colombo, Ceylon	Dry Dock . . .	711	708	* 85	32
Bombay, India	Government:				
	Lower Bombay .	256	256	51½	16½
	Upper Bombay .	200¾	199	45¾	14½
	Lower Duncan .	316½	316½	60	24
	Upper Duncan .	302½	287½	60	24
	Dry Dock (bldg.)	1000	...	100	34
	P. and O. S. N. Co.:				
	Ritchie . . .	495	466	66	18
	B. I. S. N. Co.:				
	Magazon . . .	413	395	60	15½
	Merewether (Port Trust) . . .	525	500	65½	28½
Karachi	Dry Dock . . .	260¾	238	50	12½

## AFRICA

With Azores, Réunion, and Mauritius

From Port Said, travelling west, and round to Suez.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
EGYPT Port Said	Floating Dock .	Ft. 295	Ft. ...	Ft. 61	Ft. 18
Alex- andria	Dry Dock . .	533	520	64	23
TUNIS Bizerta	Dry Dock, No. 1 .	656 $\frac{1}{2}$	...	90 $\frac{1}{2}$	33 $\frac{1}{2}$
	No. 3 . .	295 $\frac{1}{2}$	...	46 $\frac{1}{2}$	17 $\frac{1}{2}$
	No. 4 (bldg.) .	656 $\frac{1}{2}$	...	90 $\frac{1}{2}$	33 $\frac{1}{2}$
ALGERIA Algiers	Govt. Docks, stone:				
	No. 1 . .	462 $\frac{3}{4}$	...	74	28
	No. 2 . .	273	...	54	19
SENEGAL Dakar	Dry Dock . .	675 $\frac{3}{4}$	629 $\frac{3}{4}$	93 $\frac{3}{4}$	30 $\frac{1}{2}$
LAGOS Forcados	Floating Dock (2700 tons) . . .	218	...	75	36

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>CAMEROONS</b> Duala	Floating Dock (1200 tons) . . . .	Ft. 203½	Ft. ...	Ft. 42½	Ft. 14
<b>ANGOLA</b> S. Paolo	Floating Dock (1500 tons) . . . .	206½	...	49	...
<b>SOUTH AFRICA</b> Cape Town	Robinson Dock . . Patent Slip (1000 tons) . . . .	529½ 860	500 184 (cradle)	65½ ...	24½ 22
<b>Simons Bay</b>	H.M. Dockyard: Patent Slips (1000 tons):				
	No. 1 . . . .	...	176 (cradle)	48½ (cradle)	10
	No. 2 . . . .	...	78 (cradle)	21 (cradle)	7
	No. 3 . . . .	...	107 (cradle)	22 (cradle)	7½
	No. 4 . . . .	...	74 (cradle)	19 (cradle)	4½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>South Africa</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Simons Bay</b> — <i>con.</i>	Selborne Dock :				
	Outer Dock . . .	$\left\{ \begin{array}{l} 470\frac{1}{4} \\ \text{or} \\ 320\frac{1}{2} \end{array} \right.$	$\left\{ \begin{array}{l} 470\frac{3}{4} \\ \text{or} \\ 320\frac{1}{2} \end{array} \right.$	95	$36\frac{1}{2}$
	Inner Dock . . .	$\left\{ \begin{array}{l} 256\frac{1}{3} \\ \text{or} \\ 406\frac{1}{4} \end{array} \right.$	$\left\{ \begin{array}{l} 244 \\ \text{or} \\ 394 \end{array} \right.$	$95\frac{1}{2}$	$36\frac{1}{2}$
	As a Single Dock	$756\frac{1}{3}$	744	95	$36\frac{1}{2}$
<b>East London</b>	Patent Slip (1000 tons) . . .	628	200 (cradle)	40 (cradle)	17
<b>Durban</b>	Floating Dock (8500 tons) . . .	475	425	70	23
<b>MAUR- ITIUS</b> Port Louis	Dry Docks and Slips Co. : Stevenson Dock Hay Dock . .	$\left\{ \begin{array}{l} 430 \\ 324 \end{array} \right.$	$\left\{ \begin{array}{l} 417 \\ 318 \end{array} \right.$	$\left\{ \begin{array}{l} 60 (45) \\ 38 \end{array} \right.$	$\left\{ \begin{array}{l} 18\frac{1}{2} \\ 12\frac{1}{2} \end{array} \right.$



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
GERMAN EAST AFRICA Dar-es- Salaam	Floating Dock (1800 tons) . . . . .	Ft. 212½	Ft. ...	Ft. 55½	Ft. 20
EGYPT Suez	Ismail Dry Dock .	406	380	73½	23

## AMERICA

and Islands, and Great Lakes

From Labrador, travelling southward, and round by  
Cape Horn, to Alaska.

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>NEW- FOUND- LAND</b>		Ft.	Ft.	Ft.	Ft.
<b>St. John's</b>	Dry Dock . . .	610	569½	84½	23½
<b>CANADA</b>					
<b>Quebec</b>	Govt. Dry Dock . .	...	600	62	24
	Davies's Floating, No. 1 (2175 tons).	236	234	41	12
	Davies's Floating, No. 2 (1605 tons).	180	178	38½	12
	Floating Dock (2500 tons) . . .	228	...	41½	14½
	Levis Dry Dock (pro.) . . .	900	...	100	35
<b>Montreal</b>	Govt. Floating Dock	600	600	135	40
	Cantin's Dock . .	400	400	45	10
	Tate's Dock . . .	400	400	45	10
<b>Kingston, Ontario</b>	Government Dry Dock . . .	290	290	55	18

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs
		Over all.	At Bottom.		
Canada — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
Port Dal- housie	Dry Dock (Muir Bros.) . . .	260	260	46	10
Owen Sound	Dry Dock . . .	300	300	60	12
Colling- wood	Dry Dock (Colling- wood Dock Co.) .	524	515	60	15½
Port Arthur	Dry Dock . . .	700	691½	74½	15½
U.S.A. West Superior, Wis.	Dry Docks: No. 1 . . . No. 2 . . .	612 620	550 605	65½ 66½	14 19
Manito- woc, Wis.	Dry Dock . . .	350	337	45	13
Milwau- kee, Wis.	Timber No. 1 . Timber No. 2 .	455 330	439 310	60 46½	17 15½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b>		Ft.	Ft.	Ft.	Ft.
—con.					
<b>Chicago,</b>	Dry Docks :				
<b>Ill.</b>	No. 1 . . .	320	300	50	12 $\frac{3}{4}$
	No. 2 . . .	485	402	60	15 $\frac{1}{2}$
	Chicago Shipbuild- ing Co. . . .	564	556	70	16
<b>Bay City,</b>	Bay City Dry Dock				
<b>Mich.</b>	(East side) . .	315	295	42 $\frac{1}{2}$	13
	James Davidson (West side). .	435	415	60	14 $\frac{1}{2}$
<b>Port</b>	Dunford Dry Dock.	412	400	65	18
<b>Huron,</b>	Floating (1000 tons)	208	198	38	15
<b>Mich.</b>					
<b>Detroit,</b>	Detroit Dry Dock				
<b>Mich.</b>	Co. :				
	No. 1 . . .	380	368	77	16
	No. 2 . . .	236	220	45	8
	Floating (9000 tons) . . .	...	786	95 $\frac{1}{2}$	18
<b>Toledo,</b>	Dry Docks :				
<b>Ohio</b>	No. 1 . . .	690	...	95 $\frac{3}{4}$	14 $\frac{3}{4}$
	No. 2 . . .	569	525	80	13
	A. Gilmore & Sons.	231	230	37	9 $\frac{1}{2}$

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
U.S.A. — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
Lorain, Ohio	Dry Docks:				
	No. 1 . .	605	550	66	15
	No. 2 . .	751	733	77	15
Cleveland, Ohio	Wood:				
	No. 1 . .	547	536	58	13 $\frac{3}{4}$
	No. 2 . .	455	442	48	16
	No. 3 . .	360	340	48	17 $\frac{1}{2}$
Buffalo, N.Y.	Dry Docks:				
	No. 1 . .	454	429	58	16
	No. 2 . .	626	580	96	15
	No. 3 . .	372	349	45	12 $\frac{1}{2}$
Ogdens- burg, N.Y.	Patent Slip (1800 tons) (broadside)	300	300 (cradle)	...	16
CANADA Port Hawkes- bury, C.B.	Patent Slip (1000 tons) . . .	650	200 (cradle)	45 (cradle)	20 (on blocks)

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Canada</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Halifax, Nova Scotia</b>	Halifax Graving Dock Co. : Halifax Graving Dock . . . Patent Slips (Dart- mouth): No. 1 (3000 tons)	588	572	89½	30
		...	270 (cradle)	48	aft 18
<b>U.S.A. Portland, Maine</b>	Patent Slip (1200 tons) . . . .	700	230 (cradle)	...	aft 15
<b>Ports- mouth, N.H.</b>	Portsmouth Navy Yard: Dry Dock .	750	725	101½	30½
<b>Boston, Mass.</b>	Navy Yard: No. 1 (granite). No. 2, Charles- town (granite) Simpson's Patent Dry Dock Co.: No. 1, timber . No. 2, timber .	395 750 465 250	370 729 462 247	61 101½ 66 45	25½ 30½ 17½ 17

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b>					
— <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Boston, Mass.</b>	Patent Slip (1000 tons) . . . .	720	200 (cradle)	...	14
— <i>con.</i>	Patent Slip (2000 tons) . . . .	700	250 (cradle)	...	15
	Patent Slip (2300 tons) . . . .	450	260 (cradle)	...	17
	Patent Slip (1000 tons) . . . .	440	175	...	15
<b>New London, Conn.</b>	Patent Slip (2500 tons) . . . .	750	310 (cradle)	63 (cradle)	aft 21
	Patent Slip (1000 tons) . . . .	450	195 (cradle)	...	aft 16
	Patent Slip (1500 tons) . . . .	...	225 (cradle)	...	aft 17
<b>New York, N.Y.</b>	Shewan's Floating Dock (3500 tons)	...	276	87	25
	Shewan's Floating Dock (2500 tons)	...	240	81	22
	Tregarthen's Float- ing Dock (3000 tons) . . . .	256	186	85	22

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b>		<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>
— <i>con.</i>					
<b>New York,</b>	Tregarthen's Float-				
<b>N.Y.—<i>con.</i></b>	ing Dock (2000 tons) . . .	231	161	80	20
<b>Brooklyn,</b>	<b>N.Y. Navy Yard:</b>				
<b>N.Y.</b>	Granite, No. 1.	360½	329½	66½	25
	Concrete, No. 2	460	440	90	26
	Timber, No. 3.	656½	613½	105½	29½
	Granite, No. 4.	703	700	120	35
	Erie Basin Dry Dks. (J. N. Robins Co.):				
	Dry Dock, No. 1	510	485	100	20
	Dry Dock, No. 2	620	595	85	25
	Floating (7500 tons) . . .	375	...	100	18
	Floating (6000 tons) . . .	365	...	100	21
	Floating (4000 tons) . . .	330	...	80	18
	<b>W. Gokey &amp; Son:</b>				
	Floating (1200 tons) . . .	190	...	58	14
	Floating (3000 tons) . . .	265	...	65	20
	<b>Crane &amp; Sons:</b>				
	Floating (1700 tons) . . .	234	...	66	15¾
	Floating (5500 tons) . . .	360	...	76	20½
	Floating (1100 tons) . . .	...	182	50	12



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
U.S.A.					
—con.					
Brooklyn,	Morse Iron Works:	Ft.	Ft.	Ft.	Ft.
N.Y.	Floating (15,000				
—con.	tons)	...	478	110	28
	W. M. Tebo:				
	Floating (1200				
	tons)	...	190	85	16
	James Shewan:				
	Floating (5500				
	tons)	396	357	88	23
	Ira S. Bushey:				
	Floating (1200				
	tons)	180	...	65	15
	Patent Slips:				
	(2000 tons)	...	280	...	aft 15
	(1300 tons)	...	(cradle) 220	...	aft 16
	(1000 tons)	...	(cradle) 230	...	aft 16
	(1000 tons)	...	(cradle) 190	...	aft 11
			(cradle)		
Jersey	T. Smith & Sons:				
City,	Floating (2000				
N.J.	tons)	186	...	64	21
	J. Swenson:				
	Floating (1800				
	tons)	185	125	60	14
	Brown Dry Dock				
	Co.:				
	Floating (2000				
	tons)	190	...	63	19

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b> — <i>con.</i>		<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>
<b>Hoboken, N.J.</b>	Tietjen & Lang Dry Dock Co. : Floating (2000 tons) . . . . .	238	238	81	16
	• Floating (1800 tons) . . . . .	229	229	80	16
	Floating (10,000 tons) . . . . .	468	468	98	22
	Floating (1200 tons) . . . . .	190	190	68	17
	Floating (1000 tons) . . . . .	190	190	65	15
<b>Weehaw- ken, N.J.</b>	Floating (1800 tons)	225	190	67	9
<b>Staten Island, N.Y.</b>	Floating (2000 tons)	220	...	58	18
	Floating (4200 tons)	304	...	80	22
	Floating (1800 tons)	200	151	65	18
	Floating (2000 tons)	210	153	68½	17
	Patent Slip (1000 tons) . . . . .	...	212 (cradle)	...	aft 13
	Patent Slip (4500 tons) . . . . .	800	385 (cradle)	...	aft 21
<b>Perth Amboy, N.J.</b>	Floating (1500 tons)	207	157	52	14
	Floating (4500 tons)	312	250	76	20
	Floating (2500 tons)	250	...	62	...

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
U.S.A. — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
New- burgh, N.Y.	Patent Slip (1000 tons) . . . . .	250	175	...	16
Wilmington, Del.	Dry Dock, timber (Harlan & Hol- lingsworth & Co.)	350	330	90	13½
Phila- delphia	Philadelphia Navy Yard:				
	No. 1 (timber) .	501	...	90	25½
	No. 2 (timber) .	739	707	104	30
	Dry Dock . . . . .	432	412	70	20
	Floating Dock (3500 tons) . . . . .	250	...	86	17
	Patent Slip (2500 tons) . . . . .	540	288 (cradle)	...	aft 17
	Patent Slip (1000 tons) . . . . .	600	240 (cradle)	...	aft 20
Camden, N.J.	Patent Slip (1500 tons) . . . . .	450	250 (cradle)	...	aft 15½
	Patent Slip (1200 tons) . . . . .	210	200 (cradle)	...	aft 15½
	Patent Slip (1200 tons) . . . . .	200	175 (cradle)	...	aft 15½

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b> — <i>con.</i>		<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>
<b>Balti- more, Md.</b>	Columbian Iron Works and Dry Dock Co.: Simpson, timber W. E. Woodall & Co.: Floating (2000 tons) . . . . . William Skinner & Sons: Dry Dock . . . . Patent Slip (1500 tons) . . . Charles W. Booz & Son: Patent Slip (2000 tons) . . .	504  240  628 626  600	437  202  600 300  255 (cradle)	80  65  80 ...  ...	21  12  22½ aft 17  aft 19
<b>Newport News, Va.</b>	Dry Dock (Newport News Shipbuilding and Dry Dock Co.): No. 1 . . . . No. 2 . . . . No. 3 . . . .	638½ 860 586½	593 804 537½	96 103 99½	24½ 30 24
<b>Norfolk, Va.</b>	Norfolk Navy Yard: No. 1, granite . No. 2, timber . No. 3, granite . No. 4 (pro.) .	332½ 500 550 747	303 459½ 523 ...	60 84½ 112½ 110	25 25½ 34 34

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
U.S.A.					
—con.		Ft.	Ft.	Ft.	Ft.
Norfolk, Va.—con.	Patent Slip (1500 tons) . . . . .	...	225 (cradle)	...	aft 10
	Patent Slip (1500 tons) . . . . .	686	240 (cradle)	...	aft 11
	Patent Slip (1500 tons) . . . . .	840	324 (cradle)	...	...
Charles- ton, S.C.	Dry Dock (Govt.) .	575	503	113	34
Savan- nah, Ga.	Patent Slip (1500 tons) . . . . .	450	200 (cradle)	...	aft 15
Jackson- ville, Fla.	Merril Stevens Co.'s Dock (4500 tons) .	332	260	65½	20
	Patent Slip (1200 tons) . . . . .	700	210 (cradle)	...	aft 12½
Key West	Govt. Floating Dock (proposed) . . . .	...	...	...	...
Pensa- cola, Fla.	Floating Dk., Govt. (12,000 tons) . .	450	...	82	27
	Patent Slip (1000 tons) . . . . .	...	204 (cradle)	...	aft 14

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b>		Ft.	Ft.	Ft.	Ft.
— <i>con.</i>					
Mobile, Ala.	Pinto Dry Dock (3600 tons) . . .	312	232	86	17
	Floating Dock (1000 tons) . . .	260	260	48	12
	Patent Slip (1400 tons) . . .	...	247	...	aft 13½
<b>New Orleans, La.</b>	Floating Dock (5000 tons) . . .	332	...	74	22
	Floating Dock (2000 tons) . . .	232	...	62	15
	Government Float- ing (18,000 tons) .	525	525	100	23
<b>MEXICO</b>					
Vera Cruz	Govt. Floating Dock (1600 tons) . . .	262	262	46	18
<b>BER- MUDA</b>					
St. George	St. George's Patent Slip (1200 tons) .	750	171 (cradle)	40	aft 20
<b>Ireland Is.</b>	Floating Dk. (17,500 tons) . . .	545	...	92½	33

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>CUBA</b> Havana	Floating Dock (5600 tons) . . . .	Ft. 360	Ft. 280	Ft. 66	Ft. 17½
<b>JAMAICA</b> Kingston	Patent Slip (1100 tons) . . . .	650	220 (cradle)	...	aft 20
<b>HAYTI</b> Port au Prince	Patent Slip . . .	500	210 (cradle)	...	aft 15
<b>ST.</b> <b>THOMAS</b> St. Thomas	Floating Iron (3000 tons) . . . .	250	250 <sup>1</sup>	70	20
<b>MARTI-</b> <b>NIQUE</b> Fort de France	French Government (stone) . . . .	419¾	393½	91½	27½
<b>BAR-</b> <b>BADOS</b> Bridge- town	Screw Lifting Dock (1200 tons) . . .	240	215	46	12
<sup>1</sup> Can be lengthened by pontoons to 275 feet.					

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length.		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>TRINIDAD</b>					
Chaguar- amas Bay	Floating Dock (Steel, double sided) (4000 tons)	Ft. 365	Ft. ...	Ft. 65	Ft. 18
<b>VENE- ZUELA</b>					
Puerto Cabello	Floating Dock (2000 tons) . . . .	300	...	80	19
<b>BRITISH GUIANA</b>					
George- town	Sproston Dk., stone	212	203	43	10
<b>BRAZIL</b>					
Para	Floating Docks, Alfonso Penna (1700 tons) . . . .	230	230	45	12
	Lauro Müller (1700 tons) . . . .	230	230	45	12
<b>Rio de Janeiro</b>	Government: Alfonso - Penna Floating Dock (22,000 tons) . (Cobras Island) Guanabara (ex Imperial) . Santa Cruz .	550½ 423 258½	... 423 258½	102 70 54½	36 20 18



Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Brazil</b>		Ft.	Ft.	Ft.	Ft.
— <i>con.</i>					
Rio de Janeiro	Mocangué:				
— <i>con.</i>	No. 1 . . .	400	400	60	16
	No. 2 . . .	370	...	50	15
	Cruziero (Vianna Id.) (Lage Bros.).	400	375	58	18
<b>URUGUAY</b>					
Montevideo	Lobos Point Dry Dock (Cibil's) (J. D. Jackson) .	470½	450	55	15
	Maña Dry Dk. (Montevideo Gas Co.) .	272	265	50	12
<b>ARGENTINA</b>					
San Fernando	Municipal Dock .	360	330	64	8-12
<b>Buenos Ayres</b>	Eastern Dry Dock .	590½	587	65½	25
	Western Dry Dock	492½	488½	65½	25
<b>Bahia Blanca</b>	Dry Dock . . .	713	683	84	32½
	New Dock (bldg.) .	1330	...	90	34
<b>CHILI</b>					
Talcahuano	Government:				
	Dry Dk. (stone) .	614	599½	87	30½
	New Dock (pro.) .	856	...	117	36
	Floating Dock (1000 tons) .	216	...	42	...

## LIST OF DRY DOCKS: AMERICA

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Name of Port.	Docks, etc. (Basin, Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
Chili —con.		Ft.	Ft.	Ft.	Ft.
Valparaíso	"Santiago" Float- ing (wood) (3500 tons) . . . . .	300	...	49 $\frac{3}{4}$	19
	"Valparaíso" Float- ing (wood) (1500 tons) . . . . .	265	...	44 $\frac{1}{2}$	17
PERU Callao	Floating Dock (7000 tons) . . . . .	385	385	75	22
MEXICO Salina Cruz	Dry Dock . . . .	664	652	79 $\frac{1}{2}$	35 $\frac{1}{2}$
U.S.A. Mare Island, Cal.	Navy Yard: Dry Dk. (granite) Dry Dock (rein- forced con- crete) . . . . .	505 752	418 228	79 102	27-6 31 $\frac{1}{2}$
San Francisco	Hunter's Point: No. 1 (stone) . No. 2 (stone) . No. 3 (reinforced concrete) . . . .	482 $\frac{1}{2}$ 750 1050	462 714 ...	97 103 $\frac{1}{2}$ 144	24 30 34 $\frac{1}{2}$

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b>		<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>	<b>Ft.</b>
— <i>con.</i>					
<b>San Francisco</b>	Floating Docks				
— <i>con.</i>	(wood):				
	No. 1 (1000 tons)	210	208	62	15
	No. 2 (3000 tons)	301	261	68	15
	No. 3 (1800 tons)	271½	231	66	...
	Government Float- ing Dock (20,000 tons) (pro.) . . .	...	...	...	...
	Patent Slips (4000 tons) . . . . .	800	350 (cradle)	...	aft 22
	Patent Slips (4000 tons) . . . . .	851	416 (cradle)	...	aft 14
	Patent Slips (3500 tons) . . . . .	800	320 (cradle)	...	aft 18
<b>Bremer- ton, Wash.</b>	Dry Dock (wood and masonry) . . . .	640	608	92½	30½
<b>Puget Sound, Port Orchard</b>	Government. (timber)	640	608·2	92·7	30

LIST OF DRY DOCKS: AMERICA

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Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>U.S.A.</b> — <i>con.</i>		Ft.	Ft.	Ft.	Ft.
<b>Seattle</b>	Floating Dock (6000 tons) . . . .	385	325	100 (ex.)	25
	Floating Dock (2500 tons) . . . .	250	...	55	24
	Patent Slip (3000 tons) . . . .	...	275 (cradle)	...	aft 22
<b>Winslow</b>	Patent Slip (3500 tons) . . . .	...	325 (cradle)	...	aft 25
<b>CANADA</b>					
<b>Esqui- malt, Van- couver, B.C.</b>	Government (stone) Patent Slip (2400 tons) . . . .	450 <sup>1</sup> 1000	450 300 (cradle)	65 ...	26½ aft 18
<b>Victoria, B.C.</b>	Patent Slip (Vic- toria Machinery Co.) (3000 tons) .	600	290 (cradle)	45 (cradle)	20

<sup>1</sup> Can be lengthened to 480 feet by shifting caisson to outer stop.

## OCEANIA AND AUSTRALASIA

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>NEW CALE- DONIA</b>		Ft.	Ft.	Ft.	Ft.
Noumea	Patent Slip (1000 tons) . . . . .	845	227½ (cradle)	...	aft 17½
<b>SAND- WICH IS.</b>					
Honolulu	Pearl Harbour, U.S. Naval Dry Dock (building) . . . . .	589	...	113½	...
	Patent Slip (1450 tons) . . . . .	750	187½ (cradle)	...	aft 20
<b>AUS- TRALIA</b>					
Brisbane	Queensland Govt. (stone) . . . . .	457	431½	53	19
	Patent Slip (1000 tons) . . . . .	488	200 (cradle)	...	aft 20
Newcastle	Patent Slip (1000 tons) . . . . .	350	200	...	aft 15
Sydney	Cockatoo Island: Fitzroy . . . . .	477	463	59	21½
	Sutherland . . . . .	637	630	84	32

LIST OF DRY DOCKS: OCEANIA, AUSTRALASIA 541

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at entrance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
<b>Australia</b>		Ft.	Ft.	Ft.	Ft.
— <i>con.</i>					
<b>Sydney</b>	Woolwich:				
— <i>con.</i>	Mort's New Graving Dock	700	...	83	28½
	• Mort's Patent Slip:				
	No. 1 (1500 tons)	...	270 (cradle)	30 (cradle)	aft 17
	Balmain:				
	Mort's	640	640	69	18
	Jubilee Floating (1500 tons)	320	317	44	14½
<b>Melbourne</b>	Dry Dock	520	510	70	23½
	Dry Dock	430	420	64	23½
	Alfred Dock	470	459	80	26
	New Floating Dock (Melbourne Coal, Shipping, & Engineering Co.)	216	200	36	12½
<b>Port Adelaide</b>	Patent Slip (1500 tons)	720	250 (cradle)	33 (cradle)	aft 20½
<b>Freemantle</b>	Dry Dock (pro.)	910	890	100	34

## 542 LIST OF DRY DOCKS: OCEANIA, AUSTRALASIA

Name of Port.	Docks, etc. (Basin Dry Docks, unless otherwise stated.)	Length—		Width at en- trance.	Depth on sill, H. W., ordinary springs.
		Over all.	At Bottom.		
NEW ZEALAND Auckland		Ft.	Ft.	Ft.	Ft.
	Calliope Dk. (stone, new)(Harbour Bd.)	566	521	77½	33
	Auckland City Dk. (old) . . . .	312	300	43	13½
Wellington	Dry Dock (bldg.) .	683	671	84	...
	Patent Slip (2000 tons) . . . .	1075	260 (cradle)	...	aft 26
Lyttelton	Dry Dock . . .	481½	450	62	23
Port Chalmers	Dry Dock . . .	348	328	50	18½
	Dry Dock . . .	528	500	70	22

TABLES FOR THE CONVERSION OF MEASURES.  
I.—MILES.

Measures.	1	2	3	4	5	6	7	8
	Geographical League, 1/2 of a degree at the Equator.	British Statute Mile of 1760 yards, or 5280 feet.	Russian Verst of 3500 Russian feet.	Kilometre of 1000 metres.	Bessel's Sea Mile, calculated at 1 minute of arc at the Equator.	British Geographical Mile, calculated at 1 minute of arc at the Equator.	British Admiralty Knot of 6080 feet.	Swedish Mile of 10,000 metres.
1 Geographical League	1	4.6109	6.9558	7.4204	4.0067	4	4.0043	0.7420
2 British Statute Mile	0.2169	1	1.5085	1.6093	0.8690	0.8676	0.8684	0.1609
3 Russian Verst . . .	0.1438	0.6629	1	1.0668	0.5760	0.5751	0.5757	0.1607
4 Kilometre . . .	0.1348	0.6214	0.9374	1	0.5400	0.5391	0.5396	0.1000
5 Bessel's Sea Mile . .	0.2496	1.1508	1.7360	1.8520	1	0.9983	0.9994	0.1852
6 Brit. Geograph. Mile	0.2500	1.1527	1.7389	1.8551	1.0017	1	1.9011	0.1855
7 Brit. Admiralty Knot	0.2497	1.1516	1.7370	1.8531	1.0006	0.9989	1	0.1853
8 Swedish Mile . . .	1.3476	6.2139	9.3739	10.0000	5.3996	5.3905	5.3963	1

The British and Italian Geographical Miles are the same.

The British Admiralty Knot is the same as the Japanese Kai-ri.

The Swedish and Norwegian Miles are the same.

The British Admiralty Knot is the conventional Nautical Mile; but the Nautical Mile is properly the length of a minute of the Meridian, and differs according to latitude.



## II.—CABLES.

	Feet.	Metres.
Hydrography generally ( $\cdot 1$ mile) strictly .	606·97	185
Great Britain ("Cable's length") assumed at .	600	182·87
Austria-Hungary ("Seetaktik") . . . . .	656·18	200
Denmark . . . . .	616·81	188
France ("encablure") {old, 100 toises . . . . .	639·78	195
{new . . . . .	656·18	200
Germany {("Seetaktik") . . . . .	590·56	180
{ $\cdot 1$ mile . . . . .	606·97	185
Holland ("Kabellengte") . . . . .	738·20	225
Portugal ("Estadio") . . . . .	846·47	258
Russia ("Kabel") . . . . .	600·40	183
Spain ("Medida o cable") . . . . .	656·18	200

### III.—SHACKLES.

	Feet.	Fathoms.	Metres.
Great Britain . . . .	75	12½	22·88
Austria-Hungary . . . .	82·02	13·7	25·00
France . . . . .	98·42	16·4	30·00
Germany . . . . .	82·02	13·7	25·00
Italy . . . . .	90	15	27·43

## IV.—FATHOMS.

	Feet.	British fathoms.	Metres.
Great Britain ("Fathom").	6·0	1·0	1·829
Denmark } ("Favn")	6·177	1·029	1·833
Norway }			
France ("Brasse") . .	5·329	·888	1·623
Holland ("Vaden") . .	5·520	·920	1·680
Portugal ("Braça") . .	7·217	1·202	2·200
Spain ("Braza") . . .	5·492	·915	1·672
Sweden ("Famn") . . .	5·843	·974	1·781
Russia ("Sajen") . . .	6·0	1·0	1·829

# TABLES FOR THE CONVERSION OF MEASURES 545

## V.—INCHES TO CENTIMETRES.

1 inch = 2.5399 centimetres.

In.	Cm.	In.	Cm.	In.	Cm.	In.	Cm.
1	2.540	4	10.1596	15	38.098	26	66.037
2	5.080	5	12.6995	16	40.638	27	68.577
3	7.620	6	15.2394	17	43.178	28	71.117
4	1.0160	7	17.7793	18	45.718	29	73.657
5	1.2699	8	20.3192	19	48.258	30	76.197
6	1.5239	9	22.8591	20	50.798	31	78.736
7	1.7779	10	25.3990	21	53.337	32	81.276
8	2.0319	11	27.938	22	55.877	33	83.816
9	2.2859	12	30.478	23	58.417	34	86.356
1	2.5399	13	33.018	24	60.957	35	88.896
2	5.0798	14	35.558	25	63.497	36	91.436
3	7.6197						

## VI.—CENTIMETRES TO INCHES.

1 centimetre = 0.39371 inches.

Cm.	In.	Cm.	In.	Cm.	In.	Cm.	In.
1	0.394	19	7.4805	46	18.111	73	28.741
2	0.787	20	7.8742	47	18.504	74	29.134
3	1.181	21	8.2679	48	18.898	75	29.528
4	1.575	22	8.6616	49	19.292	76	29.922
5	1.968	23	9.0553	50	19.685	77	30.316
6	2.362	24	9.4490	51	20.079	78	30.709
7	2.756	25	9.8427	52	20.473	79	31.103
8	3.150	26	10.236	53	20.867	80	31.497
9	3.543	27	10.630	54	21.260	81	31.890
1	3.937	28	11.024	55	21.654	82	32.284
2	7.874	29	11.418	56	22.048	83	32.678
3	1.1811	30	11.811	57	22.441	84	33.071
4	1.5748	31	12.205	58	22.835	85	33.465
5	1.9685	32	12.599	59	23.229	86	33.859
6	2.3622	33	12.992	60	23.622	87	34.253
7	2.7559	34	13.386	61	24.016	88	34.646
8	3.1497	35	13.780	62	24.410	89	35.040
9	3.5434	36	14.173	63	24.804	90	35.434
10	3.9371	37	14.567	64	25.197	91	35.827
11	4.3308	38	14.961	65	25.591	92	36.221
12	4.7245	39	15.355	66	25.985	93	36.615
13	5.1182	40	15.748	67	26.378	94	37.009
14	5.5119	41	16.142	68	26.772	95	37.402
15	5.9056	42	16.536	69	27.166	96	37.796
16	6.2993	43	16.929	70	27.560	97	38.190
17	6.6930	44	17.323	71	27.953	98	38.583
18	7.0867	45	17.717	72	28.347	99	38.977

## VII.—FEET TO METRES.

1 foot=0·304794 metre.

Feet.	Metres.	Feet.	Metres.	Feet.	Metres.	Feet.	Metres.	Feet.	Metres.
1	0·3048	35	10·6678	69	21·0307	103	31·3938	280	85·3423
2	0·6096	36	10·9726	70	21·3356	104	31·6986	290	88·3903
3	0·9144	37	11·2774	71	21·6404	105	32·0034	300	91·4382
4	1·2192	38	11·5821	72	21·9452	106	32·3082	310	94·4862
5	1·5240	39	11·8869	73	22·2500	107	32·6130	320	97·5441
6	1·8288	40	12·1917	74	22·5548	108	32·9178	330	100·5821
7	2·1336	41	12·4965	75	22·8596	109	33·2225	340	103·6300
8	2·4384	42	12·8013	76	23·1643	110	33·5273	350	106·6779
9	2·7431	43	13·1061	77	23·4691	111	33·8321	360	109·7259
10	3·0479	44	13·4109	78	23·7739	112	34·1369	370	112·7738
11	3·3527	45	13·7157	79	24·0787	113	34·4417	380	115·8218
12	3·6575	46	14·0204	80	24·3835	114	34·7465	390	118·8697
13	3·9623	47	14·3252	81	24·6883	115	35·0513	400	121·9176
14	4·2671	48	14·6300	82	24·9931	116	35·3561	410	124·9656
15	4·5719	49	14·9348	83	25·2979	117	35·6609	420	128·0135
16	4·8767	50	15·2397	84	25·6027	118	35·9657	430	131·0614
17	5·1815	51	15·5445	85	25·9075	119	36·2705	440	134·1094
18	5·4863	52	15·8493	86	26·2123	120	36·5753	450	137·1573
19	5·7911	53	16·1541	87	26·5171	130	39·6232	460	140·2052
20	6·0959	54	16·4589	88	26·8219	140	42·6711	470	143·2532
21	6·4007	55	16·7637	89	27·1267	150	45·7191	480	146·3011
22	6·7055	56	17·0684	90	27·4315	160	48·7670	490	149·3490
23	7·0103	57	17·3732	91	27·7363	170	51·8150	500	152·3970
24	7·3151	58	17·6780	92	28·0410	180	54·8629	510	155·4449
25	7·6199	59	17·9828	93	28·3458	190	57·9109	520	158·4929
26	7·9246	60	18·2876	94	28·6506	200	60·9588	530	161·5408
27	8·2294	61	18·5924	95	28·9554	210	64·0067	540	164·5887
28	8·5342	62	18·8972	96	29·2602	220	67·0547	550	167·6367
29	8·8390	63	19·2020	97	29·5650	230	70·1026	560	170·6846
30	9·1438	64	19·5068	98	29·8698	240	73·1506	570	173·7326
31	9·4486	65	19·8116	99	30·1746	250	76·1985	580	176·7805
32	9·7534	66	20·1163	100	30·4794	260	79·2464	590	179·8284
33	10·0582	67	20·4211	101	30·7842	270	82·2944	600	182·8764
34	10·3630	68	20·7259	102	31·0890				

# TABLES FOR THE CONVERSION OF MEASURES 547

## VIII.—METRES TO FEET.

1 metre = 3·280899 feet.

Metres.	Feet.	Metres.	Feet.	Metres.	Feet.	Metres.	Feet.	Metres.	Feet.
1	3·2809	41	134·52	81	265·75	121	396·98	161	528·22
2	6·5618	42	137·80	82	269·03	122	400·26	162	531·50
3	9·8427	43	141·08	83	272·31	123	403·54	163	534·78
4	13·124	44	144·36	84	275·60	124	406·82	164	538·06
5	16·404	45	147·64	85	278·88	125	410·11	165	541·34
6	19·685	46	150·92	86	282·16	126	413·39	166	544·62
7	22·966	47	154·20	87	285·44	127	416·67	167	547·90
8	26·247	48	157·48	88	288·72	128	419·95	168	551·19
9	29·528	49	160·76	89	292·00	129	423·23	169	554·47
10	32·809	50	164·04	90	295·28	130	426·52	170	557·75
11	36·090	51	167·32	91	298·56	131	429·79	171	561·03
12	39·371	52	170·61	92	301·84	132	433·07	172	564·31
13	42·652	53	173·89	93	305·12	133	436·35	173	567·59
14	45·933	54	177·17	94	308·40	134	439·64	174	570·87
15	49·213	55	180·45	95	311·69	135	442·92	175	574·15
16	52·494	56	183·73	96	314·97	136	446·20	176	577·44
17	55·775	57	187·01	97	318·25	137	449·48	177	580·72
18	59·056	58	190·29	98	321·53	138	452·76	178	584·00
19	62·337	59	193·57	99	324·81	139	456·04	179	587·28
20	65·618	60	196·85	100	328·09	140	459·33	180	590·56
21	68·899	61	200·13	101	331·37	141	462·61	181	593·84
22	72·180	62	203·42	102	334·65	142	465·89	182	597·12
23	75·461	63	206·70	103	337·93	143	469·17	183	600·40
24	78·742	64	209·98	104	341·11	144	472·45	184	603·68
25	82·022	65	213·26	105	344·49	145	475·73	185	606·96
26	85·303	66	216·54	106	347·77	146	479·01	186	610·25
27	88·584	67	219·82	107	351·05	147	482·29	187	613·53
28	91·865	68	223·10	108	354·33	148	485·57	188	616·81
29	95·146	69	226·38	109	357·62	149	488·85	189	620·09
30	98·427	70	229·66	110	360·90	150	492·13	190	623·37
31	101·71	71	232·94	111	364·18	151	495·41	191	626·65
32	104·99	72	236·22	112	367·46	152	498·69	192	629·93
33	108·27	73	239·51	113	370·74	153	501·97	193	633·21
34	111·55	74	242·79	114	374·02	154	505·25	194	636·49
35	114·83	75	246·07	115	377·30	155	508·54	195	639·77
36	118·11	76	249·35	116	380·58	156	511·82	196	643·06
37	121·39	77	252·63	117	383·86	157	515·10	197	646·34
38	124·67	78	255·91	118	387·14	158	518·38	198	649·62
39	127·96	79	259·19	119	390·42	159	521·66	199	652·90
40	131·24	80	262·47	120	393·71	160	524·94	200	656·18

IX.—SQUARE AND CUBIC  
FEET INTO SQUARE  
AND CUBIC METRES.

1 sq. ft. = 0·09290 sq. metres.

1 cu. ft. = 0·02832 cu. metres.

Sq. and cub. ft.	Sq. metres.	Cub. metres.
1	0·0929	0·0283
2	0·1858	0·0566
3	0·2787	0·0849
4	0·3716	0·1133
5	0·4645	0·1416
6	0·5574	0·1699
7	0·6503	0·1982
8	0·7432	0·2265
9	0·8361	0·2548
10	0·9290	0·2832
11	1·0219	0·3115
12	1·1148	0·3398
13	1·2077	0·3681
14	1·3006	0·3964
15	1·3935	0·4247
16	1·4864	0·4530
17	1·5793	0·4814
18	1·6722	0·5097
19	1·7651	0·5380
20	1·8580	0·5663

X.—SQUARE AND CUBIC  
METRES INTO SQUARE  
AND CUBIC FEET.

1 sq. metre = 10·764 sq. ft.

1 cu. metre = 35·317 cu. ft.

Sq. and cub. met.	Sq. feet.	Cub. feet.
1	10·76	35·32
2	21·53	70·64
3	32·29	105·95
4	43·06	141·27
5	53·82	176·58
6	64·59	211·90
7	75·35	247·22
8	86·11	282·53
9	96·88	317·85
10	107·64	353·17
11	118·41	388·44
12	129·17	423·80
13	139·94	459·12
14	150·70	494·43
15	161·46	529·75
16	172·23	565·07
17	182·99	600·38
18	193·76	635·70
19	204·52	671·02
20	215·29	706·33

## XI.—POUNDS (AVOIRD.) INTO KILOGRAMMES.

1 lb. = 0.45359 kilogrammes.

Lbs.	Kgs.	Lbs.	Kgs.	Lbs.	Kgs.	Lbs.	Kgs.
1	0.453	34	15.422	66	29.937	98	44.452
2	0.907	35	15.875	67	30.390	99	44.905
3	1.360	36	16.329	68	30.844	100	45.359
4	1.814	37	16.783	69	31.297	101	45.812
5	2.268	38	17.236	70	31.751	102	46.266
6	2.721	39	17.690	71	32.205	103	46.720
7	3.175	40	18.143	72	32.658	104	47.173
8	3.628	41	18.597	73	33.112	105	47.627
9	4.082	42	19.050	74	33.565	106	48.080
10	4.535	43	19.504	75	34.019	107	48.534
11	4.989	44	19.958	76	34.473	108	48.988
12	5.443	45	20.411	77	34.926	109	49.441
13	5.896	46	20.865	78	35.380	110	49.895
14	6.350	47	21.318	79	35.833	111	50.348
15	6.803	48	21.772	80	36.287	112	50.802
16	7.257	49	22.226	81	36.741	113	51.256
17	7.711	50	22.679	82	37.194	114	51.709
18	8.164	51	23.133	83	37.648	115	52.163
19	8.618	52	23.586	84	38.101	116	52.616
20	9.071	53	24.040	85	38.555	117	53.070
21	9.525	54	24.494	86	39.009	118	53.523
22	9.979	55	24.947	87	39.462	119	53.977
23	10.432	56	25.401	88	39.916	120	54.431
24	10.886	57	25.854	89	40.369	121	54.884
25	11.339	58	26.308	90	40.823	122	55.338
26	11.793	59	26.762	91	41.276	123	55.791
27	12.247	60	27.215	92	41.730	124	56.245
28	12.700	61	27.669	93	42.184	125	56.699
29	13.154	62	28.122	94	42.637	126	57.152
30	13.607	63	28.576	95	43.091	127	57.606
31	14.061	64	29.029	96	43.544	128	58.059
32	14.515	65	29.483	97	43.998	129	58.513
33	14.968						

## XII.—KILOGRAMMES INTO POUNDS (AVOIRD.).

1 kilogramme = 2·2046 lbs.

Kgs	Lbs.	Kgs	Lbs.	Kgs	Lbs.	Kgs.	Lbs.
1	2·20	34	74·96	66	145·51	98	216·05
2	4·41	35	77·16	67	147·71	99	218·26
3	6·61	36	79·37	68	149·91	100	220·46
4	8·82	37	81·57	69	152·12	101	222·67
5	11·02	38	83·78	70	154·32	102	224·87
6	13·23	39	85·98	71	156·53	103	227·07
7	15·43	40	88·18	72	158·73	104	229·28
8	17·64	41	90·39	73	160·94	105	231·48
9	19·84	42	92·59	74	163·14	106	233·69
10	22·05	43	94·80	75	165·35	107	235·89
11	24·25	44	97·00	76	167·55	108	238·10
12	26·45	45	99·21	77	169·75	109	240·30
13	28·66	46	101·41	78	171·96	110	242·51
14	30·86	47	103·62	79	174·16	111	244·71
15	33·07	48	105·82	80	176·37	112	246·92
16	35·27	49	108·03	81	178·57	113	249·12
17	37·48	50	110·23	82	180·78	114	251·32
18	39·68	51	112·44	83	182·98	115	253·53
19	41·89	52	114·64	84	185·19	116	255·73
20	44·09	53	116·84	85	187·39	117	257·94
21	46·30	54	119·05	86	189·60	118	260·14
22	48·50	55	121·25	87	191·80	119	262·35
23	50·71	56	123·46	88	194·01	120	264·55
24	52·91	57	125·66	89	196·21	121	266·76
25	55·12	58	127·87	90	198·41	122	268·96
26	57·32	59	130·07	91	200·62	123	271·17
27	59·52	60	132·28	92	202·82	124	273·37
28	61·73	61	134·48	93	205·03	125	275·58
29	63·93	62	136·69	94	207·23	126	277·78
30	66·14	63	138·89	95	209·44	127	279·98
31	68·34	64	141·09	96	211·64	128	282·19
32	70·55	65	143·30	97	213·85	129	284·39
33	72·75						

XIII.—ENGLISH TONS INTO METRIC TONS OF 1000  
KILOGRAMMES.

1 English ton=1016·0475 kilogrammes.

Tons.	Met. tons.	Tons.	Met. tons.	Tons.	Met. tons.
1	1·016	18	18·288	800	812·833
2	2·032	19	19·304	900	914·442
3	3·048	20	20·320	1000	1016·047
4	4·064	30	30·481	2000	2032·095
5	5·080	40	40·641	3000	3048·142
6	6·096	50	50·802	4000	4064·190
7	7·112	60	60·962	5000	5080·237
8	8·128	70	71·123	6000	6096·285
9	9·144	80	82·299	7000	7112·332
10	10·160	90	91·444	8000	8128·380
11	11·176	100	101·604	9000	9144·427
12	12·192	200	203·209	10000	10160·475
13	13·208	300	304·814	11000	11176·522
14	14·224	400	406·419	12000	12192·570
15	15·240	500	508·023	13000	13208·617
16	16·256	600	609·628	14000	14224·665
17	17·272	700	711·233	15000	15240·712



## 552 TABLES FOR THE CONVERSION OF MEASURES

XIV.—POUNDS PER SQUARE INCH INTO KILOGRAMMES  
PER SQUARE CENTIMETRE.

1 lb. per sq. in. = 0.07038760 kgs. per sq. cm.

Lbs. per sq. in.	Kgs. per sq. cm.	Lbs. per sq. in.	Kgs. per sq. cm.	Lbs. per sq. in.	Kgs. per sq. cm.
1	0.070387	44	3.097054	87	6.123721
2	0.140775	45	3.167442	88	6.194108
3	0.211162	46	3.237829	89	6.264496
4	0.281550	47	3.308217	90	6.334884
5	0.351938	48	3.378604	91	6.405271
6	0.422325	49	3.448992	92	6.475659
7	0.492713	50	3.519380	93	6.546046
8	0.563100	51	3.589767	94	6.616434
9	0.633488	52	3.660155	95	6.686822
10	0.703876	53	3.730542	96	6.757209
11	0.774263	54	3.800930	97	6.827597
12	0.844651	55	3.871318	98	6.897984
13	0.915038	56	3.941705	99	6.968372
14	0.985426	57	4.012093	100	7.038760
15	1.055814	58	4.082480	105	7.390698
16	1.126201	59	4.152868	110	7.742636
17	1.196589	60	4.223256	115	8.094574
18	1.266976	61	4.293643	120	8.446512
19	1.337364	62	4.364031	125	8.798450
20	1.407752	63	4.434418	130	9.150388
21	1.478139	64	4.504806	135	9.502326
22	1.548527	65	4.575194	140	9.854264
23	1.618914	66	4.645581	145	10.206202
24	1.689302	67	4.715969	150	10.558140
25	1.759690	68	4.786356	155	10.910078
26	1.830077	69	4.856744	160	11.262016
27	1.900465	70	4.927132	165	11.613954
28	1.970852	71	4.997519	170	11.965892
29	2.041240	72	5.067907	175	12.317830
30	2.111628	73	5.138294	180	12.669768
31	2.182015	74	5.208682	185	13.021706
32	2.252403	75	5.279070	190	13.373644
33	2.322790	76	5.349457	195	13.725582
34	2.393178	77	5.419845	200	14.077520
35	2.463566	78	5.490232	210	14.781396
36	2.533953	79	5.560620	220	15.485272
37	2.604341	80	5.631008	230	16.189148
38	2.674728	81	5.701395	240	16.893024
39	2.745116	82	5.771783	250	17.596900
40	2.815504	83	5.842170	260	18.300776
41	2.885891	84	5.912558	270	19.004652
42	2.956279	85	5.982946	280	19.708528
43	3.026666	86	6.053333	300	21.162280

XV.—POUNDS PER SQUARE FOOT INTO KILOGRAMMES  
PER SQUARE METRE.

Lbs. per sq. ft.	Kgs. per sq. metre.
1 . . . . .	4.88697
2 . . . . .	9.77394
3 . . . . .	14.66091
4 . . . . .	19.54788
5 . . . . .	24.43485
6 . . . . .	29.32182
7 . . . . .	34.20879
8 . . . . .	39.09576
9 . . . . .	43.98273
10 . . . . .	48.86970

XVI.—TONS PER SQUARE INCH INTO KILOGRAMMES  
PER SQUARE CENTIMETRE.

Tons per sq. in.	Kgs. per sq. cm.
1 . . . . .	157.4809
2 . . . . .	314.9618
3 . . . . .	472.4427
4 . . . . .	629.9236
5 . . . . .	787.4045
6 . . . . .	944.8854
7 . . . . .	1102.3663
8 . . . . .	1259.8472
9 . . . . .	1417.3281
10 . . . . .	1574.8090

## XVII.—FOOT-TONS INTO METRE-KILOGRAMMES.

1 foot-ton = 0·3097193 metre-tons.

1 metre-ton (1000 metre-kilogrammes) = 3·2270815 foot-tons.

Ft.-tons.	M.-kgs.	Ft.-tons.	M.-kgs.	Ft.-tons.	M.-kgs.	Ft.-tons.	M.-kgs.
1	309·719	32	9911·008	63	19512·297	94	29113·586
2	619·438	33	10220·727	64	19822·016	95	29423·305
3	929·157	34	10530·446	65	20131·735	96	29733·024
4	1238·876	35	10840·165	66	20441·454	97	30042·743
5	1548·595	36	11149·884	67	20751·173	98	30352·462
6	1858·314	37	11459·603	68	21060·892	99	30662·181
7	2168·033	38	11769·322	69	21370·611	100	30971·900
8	2477·752	39	12079·041	70	21680·330	101	31281·619
9	2787·471	40	12388·760	71	21990·049	102	31591·338
10	3097·190	41	12698·479	72	22299·768	103	31901·057
11	3406·909	42	13008·198	73	22609·487	104	32210·776
12	3716·628	43	13317·917	74	22919·206	105	32520·495
13	4026·347	44	13627·636	75	23228·925	106	32830·214
14	4336·066	45	13937·355	76	23538·644	107	33139·933
15	4645·785	46	14247·074	77	23848·363	108	33449·652
16	4955·504	47	14556·793	78	24158·082	109	33759·371
17	5265·223	48	14866·512	79	24467·801	110	34069·090
18	5574·942	49	15176·231	80	24777·520	111	34378·809
19	5884·661	50	15485·950	81	25087·239	112	34688·528
20	6194·380	51	15795·669	82	25396·958	113	34998·247
21	6504·099	52	16105·388	83	25706·677	114	35307·966
22	6813·818	53	16415·107	84	26016·396	115	35617·685
23	7123·537	54	16724·826	85	26326·115	116	35927·404
24	7433·256	55	17034·545	86	26635·834	117	36237·123
25	7742·975	56	17344·264	87	26945·553	118	36546·842
26	8052·694	57	17653·983	88	27255·272	119	36856·561
27	8362·413	58	17963·702	89	27564·991	120	37166·280
28	8672·132	59	18273·421	90	27874·710	130	40263·470
29	8981·851	60	18583·140	91	28184·429	140	43360·660
30	9291·570	61	18892·859	92	28494·148	150	46457·850
31	9601·289	62	19202·578	93	28803·867		

TABLES FOR THE CONVERSION OF MEASURES 555

XVIII.—ENGLISH HORSE-POWER INTO METRIC  
HORSE-POWER.

1 I.H.P.=1.01385 "Chevaux."

H.P.	Chevaux.	H.P.	Chevaux.	H.P.	Chevaux.
1	1.014	100	101.385	10,000	10138.5
2	2.027	200	202.770	11,000	11152.3
3	3.041	300	304.155	12,000	12166.2
4	4.055	400	405.540	13,000	13180.0
5	5.069	500	506.915	14,000	14193.9
6	6.083	600	608.310	15,000	15207.4
7	7.097	700	709.695	16,000	16221.6
8	8.111	800	811.080	17,000	17235.4
9	9.124	900	912.465	18,000	18249.3
10	10.138	1000	1013.85	19,000	19263.1
20	20.277	2000	2027.70	20,000	20277.0
30	30.415	3000	3041.55	30,000	30415.5
40	40.554	4000	4055.40	40,000	40554.0
50	50.692	5000	5069.15	50,000	50691.5
60	60.831	6000	6083.10	60,000	60831.0
70	70.969	7000	7096.95	70,000	70969.5
80	81.108	8000	8110.80	80,000	81108.0
90	91.246	9000	9124.65	90,000	91246.5
				100,000	101385.0

## PLANS OF SHIPS

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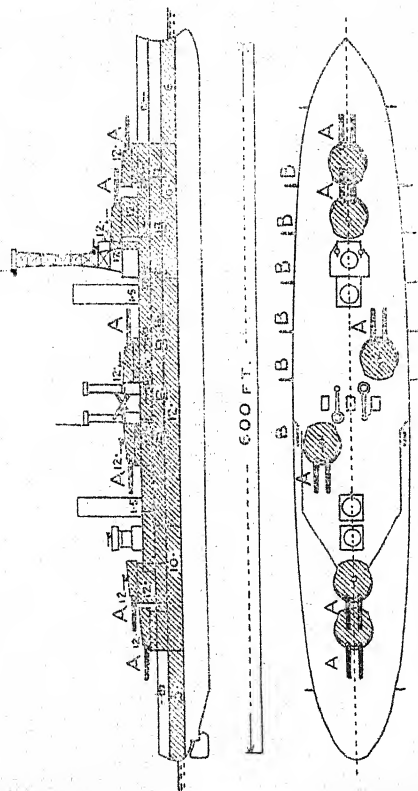
Plans marked \* are on a uniform scale of  $\frac{1}{2400}$ .

Figures represent approximate thickness of armour in inches.

Value of armour: 1 in. K.S. =  $1\frac{1}{4}$  in. H.N.S. =  $1\frac{1}{2}$  in. H.S. = 2 in. Comp. =  $2\frac{1}{2}$  in. mild steel = 3 in. wrought iron. Creusot, Terni, and other special steels, according to date, may be taken as = H.S. or K.S.

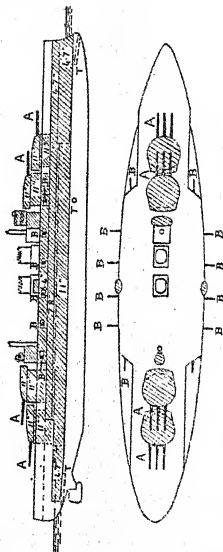
MORENO CLASS.

Armour, Krupp.  
A. 12 in. B.  
B. 6 in. Q.



*Armour, Krupp.*  
 A. 12 in. (45 cal.).  
 B. 5.9 in. (50 cal.).

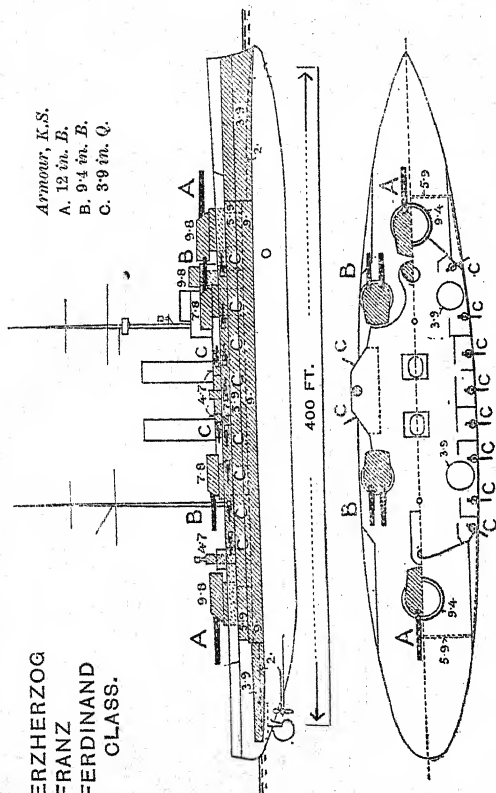
\* VIRIBUS UNITIS  
 CLASS.



ERZHERZOG  
FRANZ  
FERDINAND  
CLASS.

*Armour, K.S.*

- A. 12 in. B.  
B. 9.4 in. B.  
C. 3.9 in. Q.

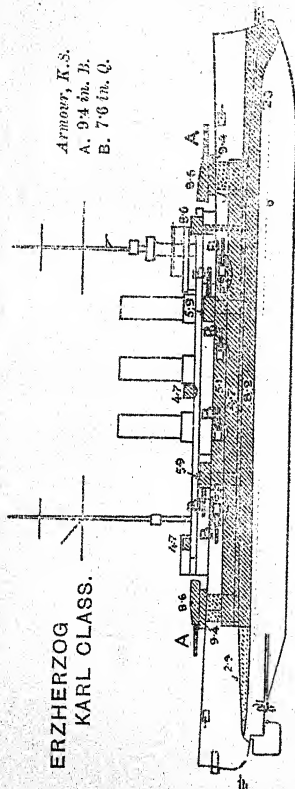


est.

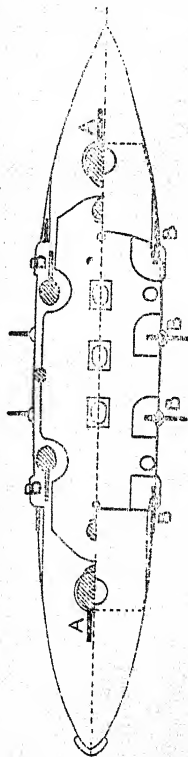


ERZHERZOG  
KARL CLASS.

Armour, K.S.  
A. 9.4 in. B.  
B. 7.6 in. Q.



400 FT.



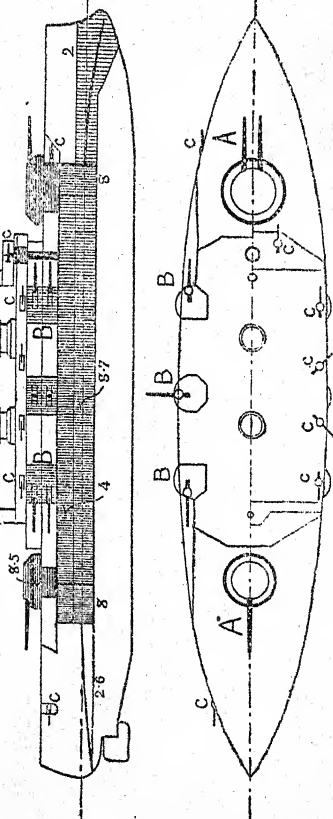
Armour, K.S.

A. 9.4 in. B.

B. 5.9 in. Q.

C. 3 pr. Q.

HABSBURG  
CLASS.



est.



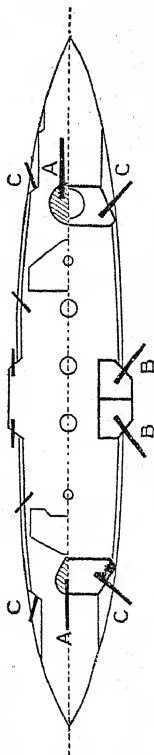
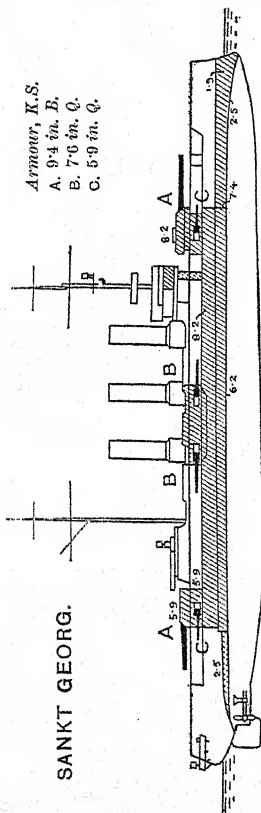
SANKT GEORG.

Armour, K.S.

A. 9.4 in. B.

B. 7.6 in. C.

C. 5.9 in. Q.



(The gun in aft turret should be lettered B.)

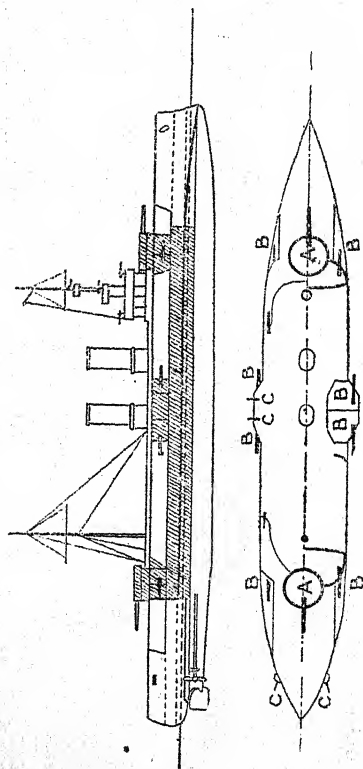
KAISER KARL VI.

Armour, H.S.

A. 9.4 in. B.

B. 5.9 in. Q.

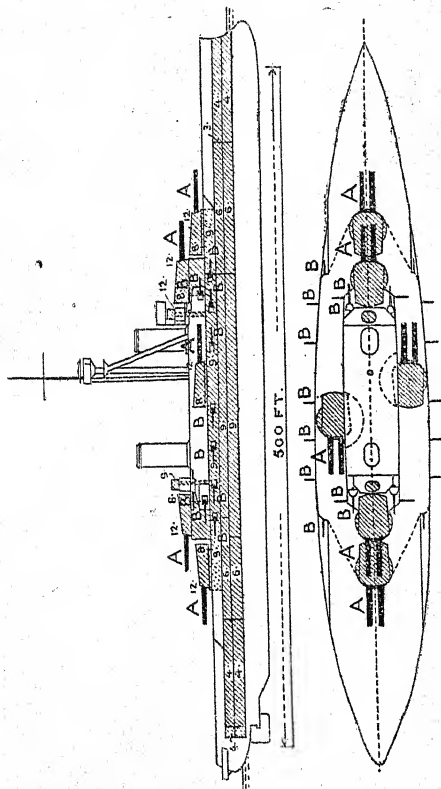
C. 6 pr. Q.



(Has been built with 3 funnels.)

Armour, K.S.  
A. 12 in. B.  
B. 4.7 in. Q.

MINAS GERAES CLASS.



## DEODORO CLASS.

*Armour, Creusot.*

A. 9.2 in. B.

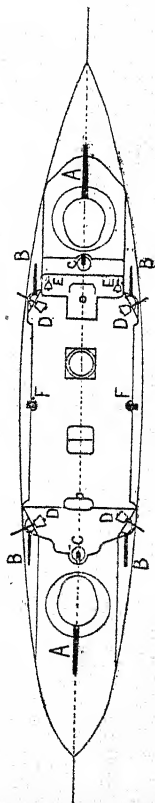
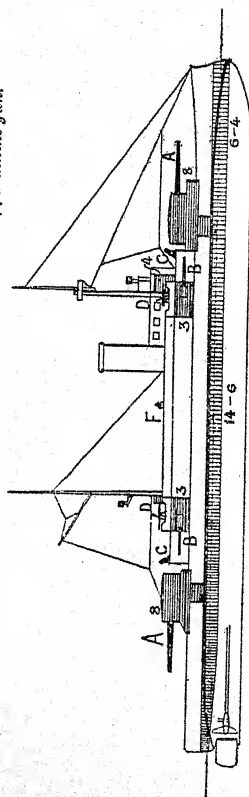
B. 4.7 in. Q.

C. 5.9 in. howitzer.

D. 6 pr. Q.

E. 1 pr. Q.

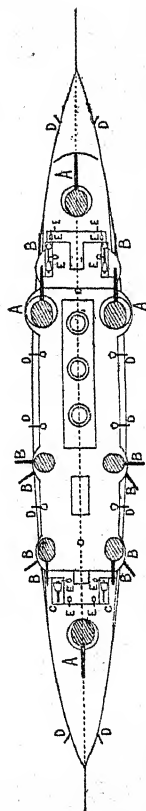
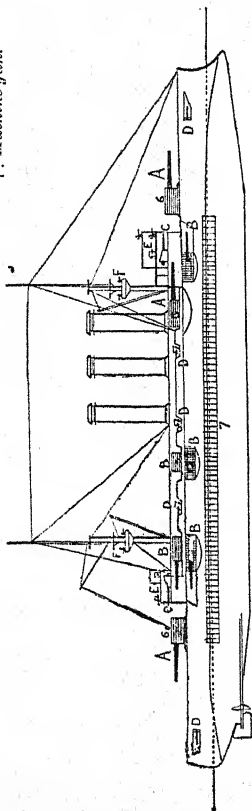
F. Machine gun.



Armour, H.N.S.

- A. 8 in. Q.  
 B. 6 in. Q.  
 C. 4.7 in. Q.  
 D. 12 pr. Q.  
 E. 6 pr. Q.  
 F. Machine gun.

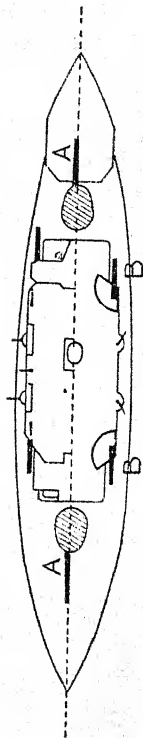
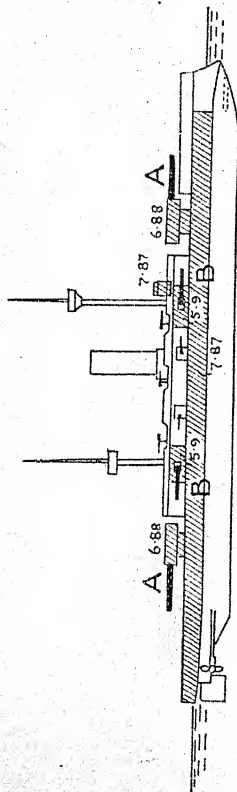
O'HIGGINS.





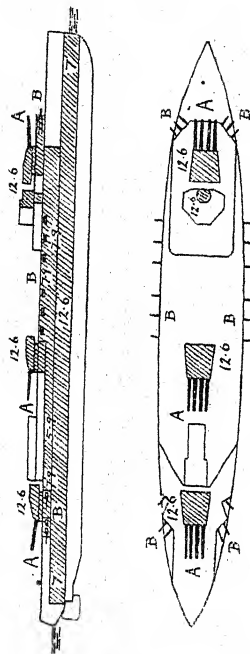
## OLFERT FISCHER CLASS.

Armour, K.S.  
 A. 9.4 in. B.  
 B. 5.9 in. Q.



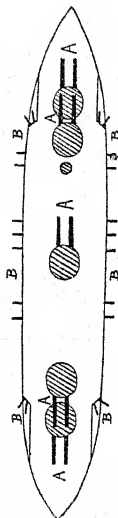
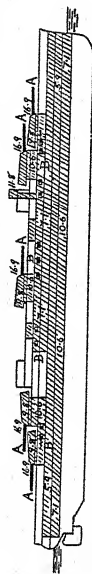
## \* NORMANDIE CLASS.

*Armour, Krupp.*  
 A. 13.4 in. (45 cal.).  
 B. 5.5 in. (50 cal.).



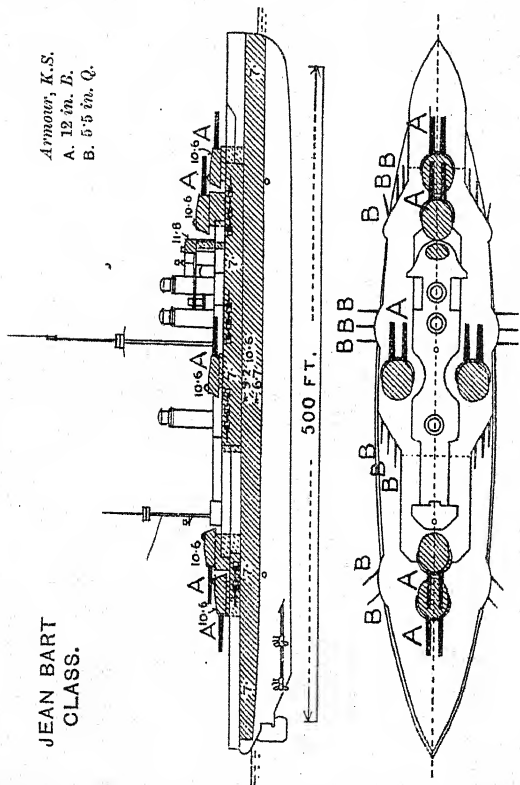
## \* BRETAGNE CLASS.

*Armour, Krupp.*  
 A. 13.4 in. (45 cal.).  
 B. 5.5 in. (50 cal.).

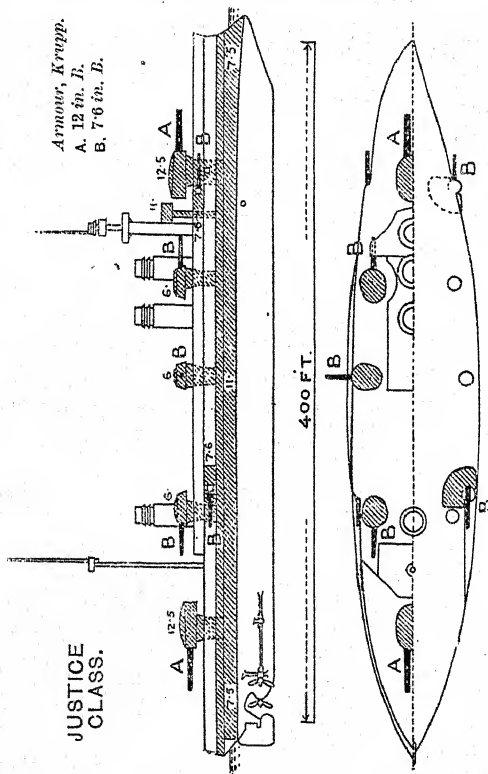


JEAN BART  
CLASS.

*Armour, K.S.*  
A. 12 in. B.  
B. 5.5 in. Q.

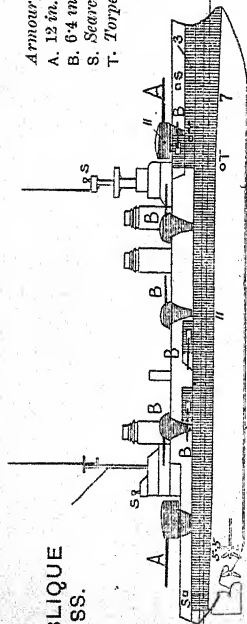




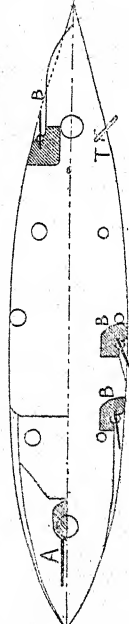
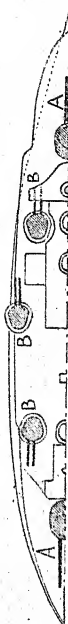


# RÉPUBLIQUE CLASS.

Armour, Krupp.  
A. 12 in. B.  
B. 6.4 in. Q.  
S. Search-light.  
T. Torpedo tube.

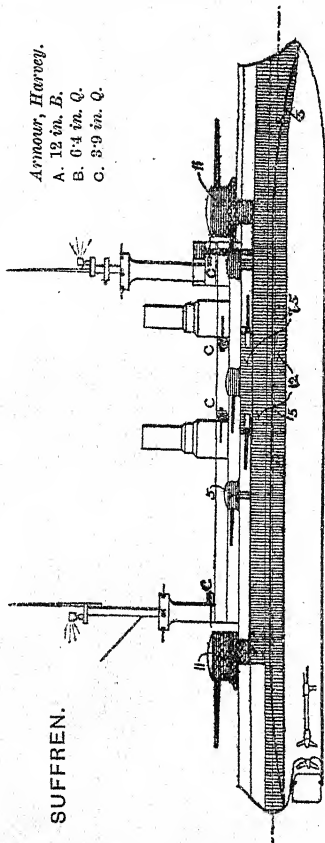


400 FT

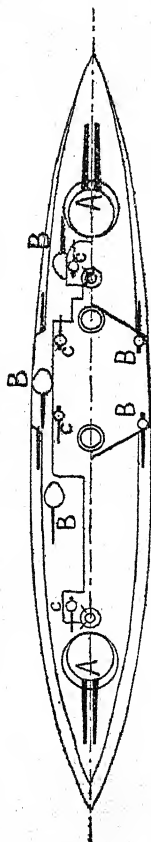


*Armour, Harvey.*

- A. 12 in. B.
- B. 6.4 in. Q.
- C. 3.9 in. Q.



SUFFREN.

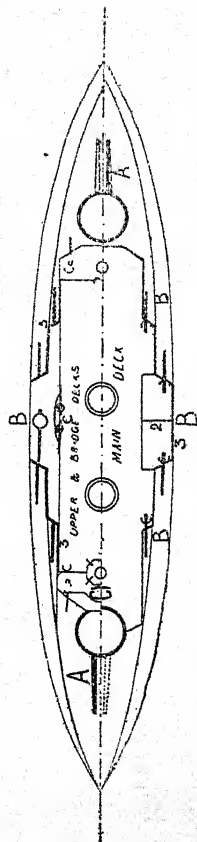
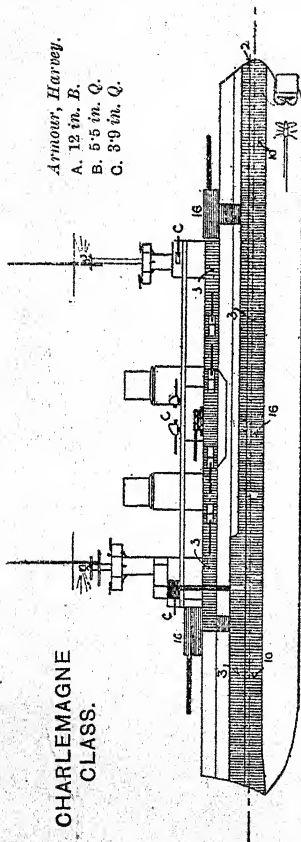




*Armour, Harvey.*

- A. 12 in. B.  
B. 5.5 in. Q.  
C. 3.9 in. Q.

CHARLEMAGNE  
CLASS.

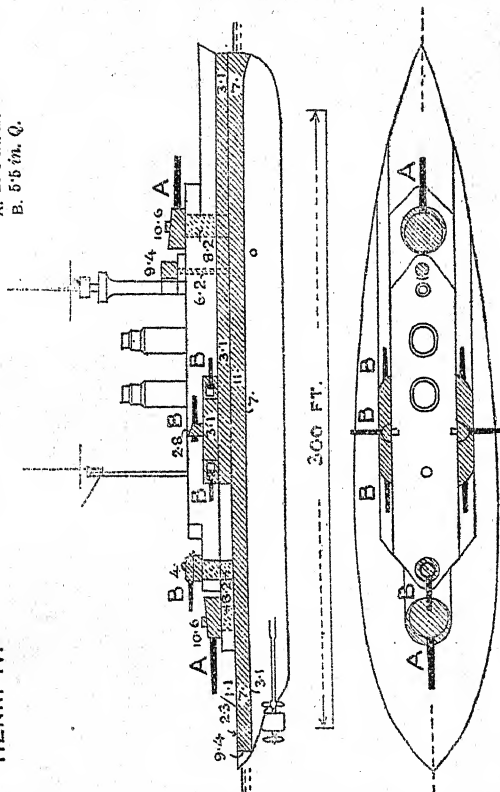


## HENRI IV.

*Arnour, Harvey.*

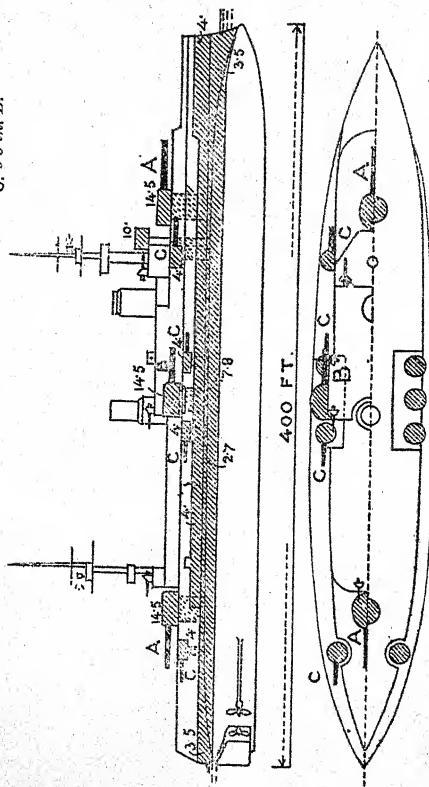
A. 10.8 in. B.

B. 5.5 in. Q.



*Armour, Harvey*  
 A. 12 in. B.  
 E. 10·8 in. B.  
 C. 5·5 in. B.

\* BOUVET.

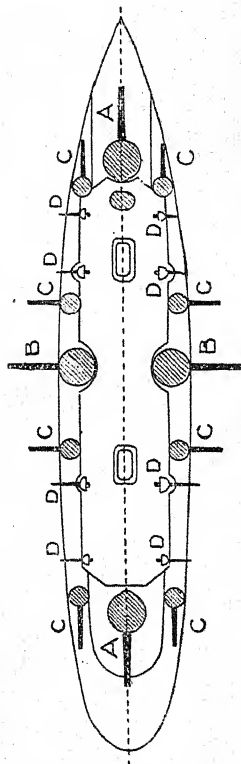
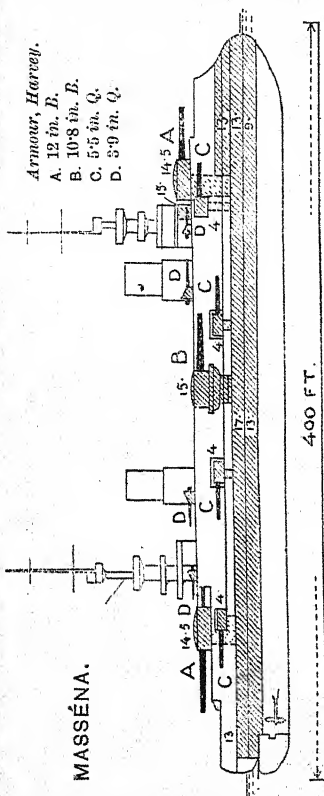


\* Sunk, March 1915.

Armour, Harvey.

- A. 12 in. B.  
 B. 10·8 in. B.  
 C. 5·5 in. Q.  
 D. 3·9 in. Q.

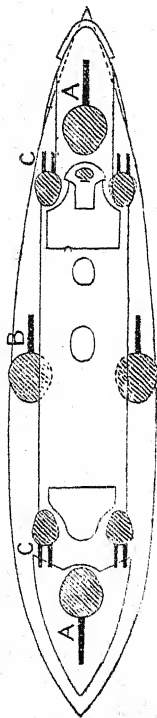
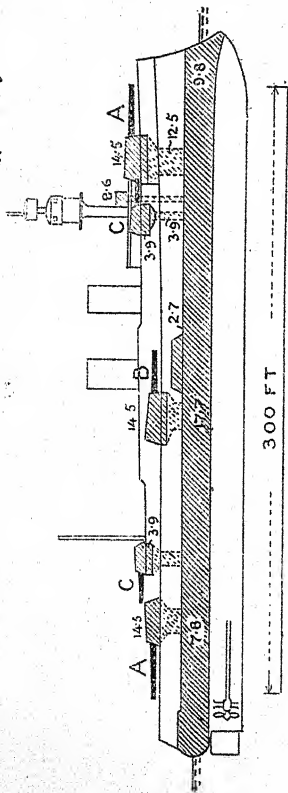
MASSÉNA.



## JAURÉGUIBERRY.

Armour, Creusot.

- A. 12 in. B.  
B. 10·8 in. B.  
C. 5·5 in. Q.

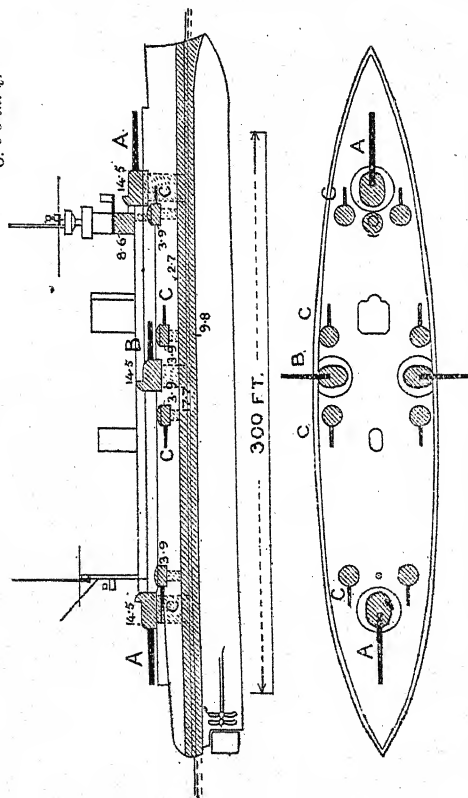


(Still has mil. mainmast, similar to foremast.)

Armour, Creusot.

- A. 12 in. L.  
B. 10.8 in. B.  
C. 5.5 in. Q.

CARNOT.



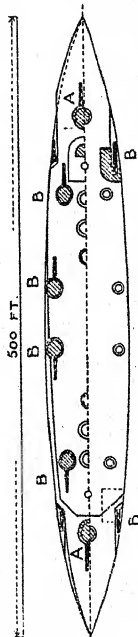
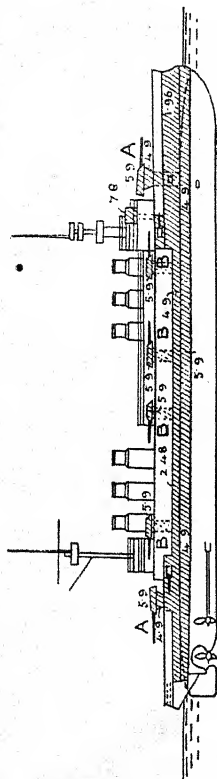


Armour, Krupp.

A. 7.6 in. B.

B. 6.4 in. Q.

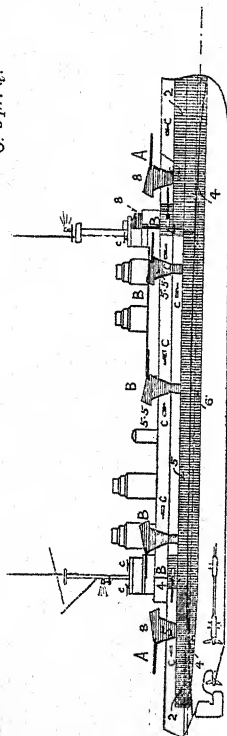
ERNEST RENAN.

(The *Jules Michelet* is similar, but has 4 funnels.)

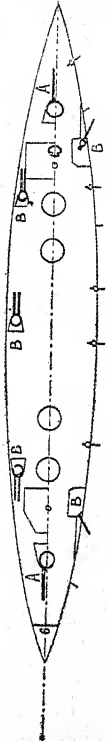


*Armour, Krupp.*  
 A. 7.6 in. B.  
 B. 6.4 in. Q.  
 C. 3 pr. Q.

VICTOR HUGO CLASS.



400 FT.



Armour, Krupp.

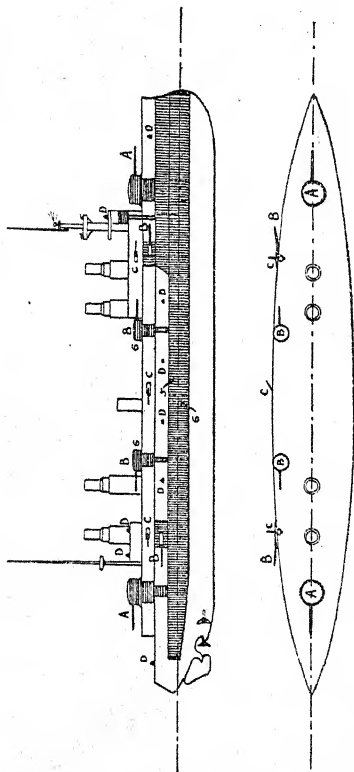
A. 7.6 in. B.

B. 6.4 in. Q.

C. 3.9 in. Q.

D. 3 pr. Q.

## CONDÉ CLASS.



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quest.

## MONTCALM CLASS.

*Armour, Krupp.*

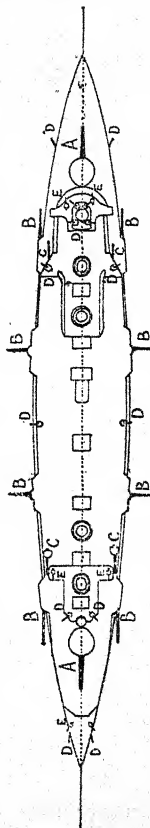
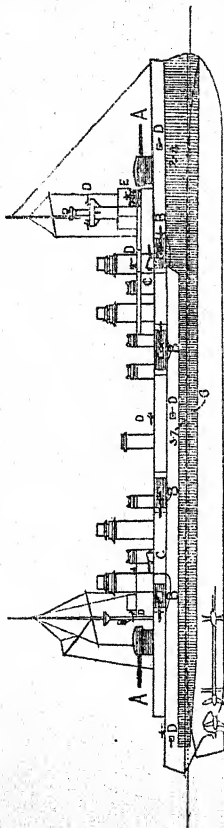
A. 7.6 in. B.

B. 6.4 in. Q.

C. 3.9 in. Q.

D. 3 pr. Q.

E. 1 pr. Q.



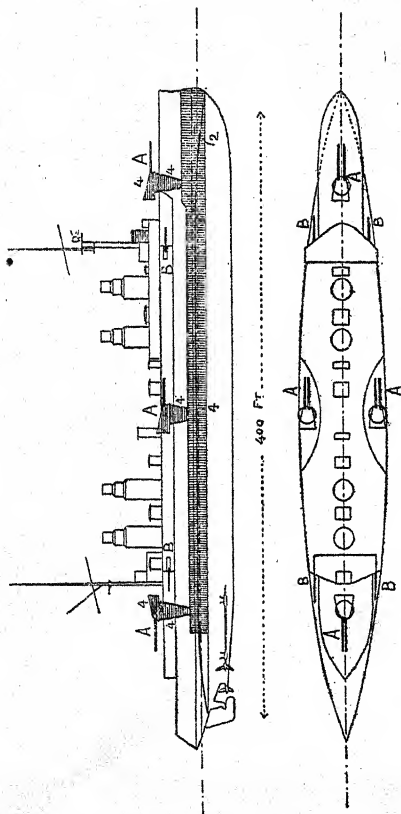
(Turret bases are 6 in. down to prot. deck.)

Armour, H.N.S.

A. 6.4 in. Q.

B. 3.9 in. Q.

## DUPLÉIX CLASS.



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*Armour, Harvey.*

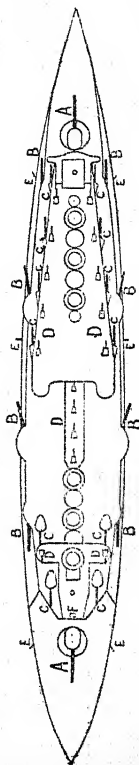
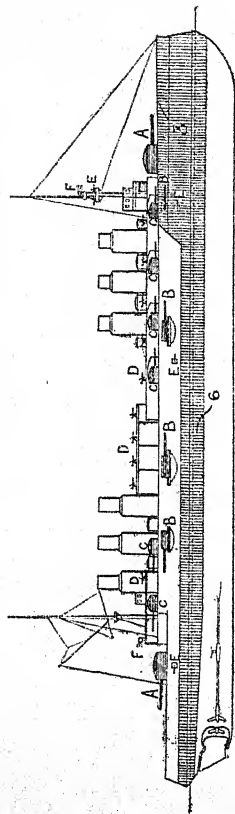
A. 7.6 in. B. D. 3 pr. Q.

B. 5.5 in. Q. E. 1 pr. Q.

C. 3.9 in. Q. F. Search-light.

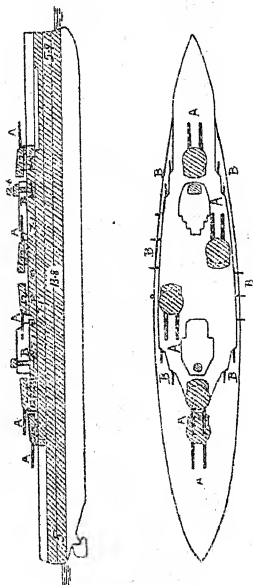
6 B. have been substituted for the 12 C.

JEANNE D'ARC.



Armour, Krupp.  
A. 12 in. (50 cal.).  
B. 5.9 in. (50 cal.).

\*KAISER CLASS.



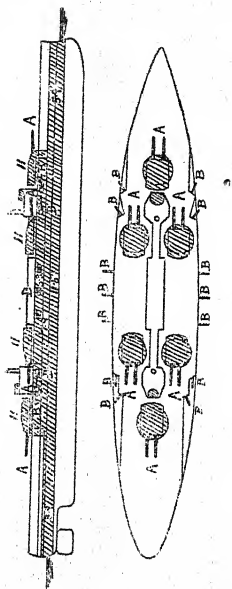
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quest.

*Armour, Krupp.*  
 A. 12 in. (50 cal.),  
 B. 5.9 in. (50 cal.).

\* HELGOLAND CLASS.

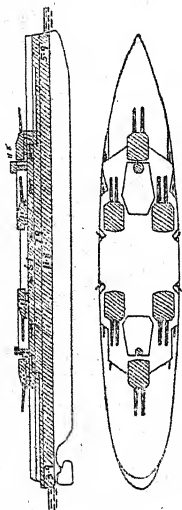


Armour, K.S.

A. 11 in. D.

B. 5.9 in. Q.

\*NASSAU CLASS.



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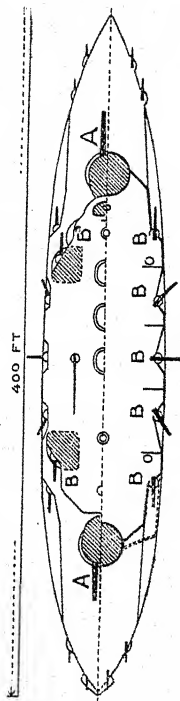
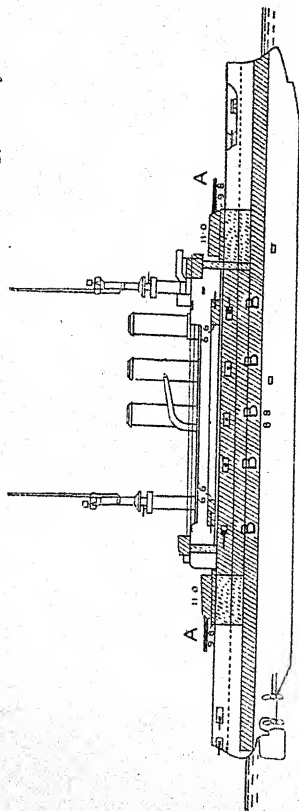
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## DEUTSCHLAND CLASS.

Armour, K.S.  
A. 11 in. B.  
B. 6.7 in. Q.

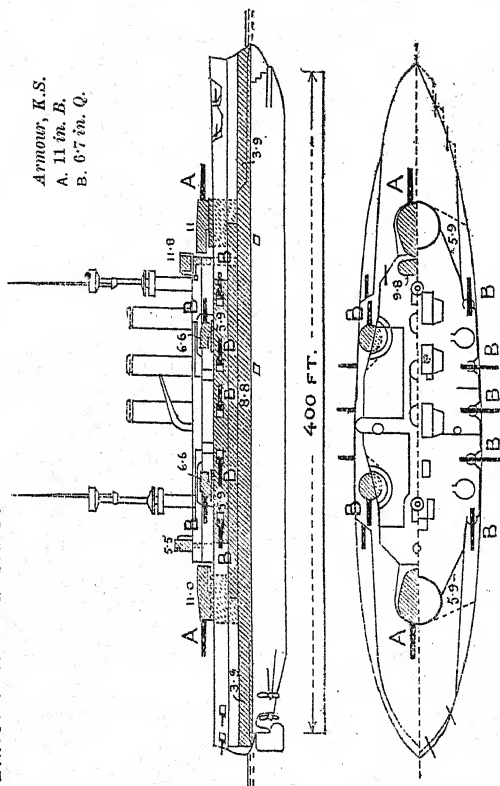


## BRAUNSCHWEIG CLASS.

Armour, K.S.

A. 11 in. B.

B. 6.7 in. Q.



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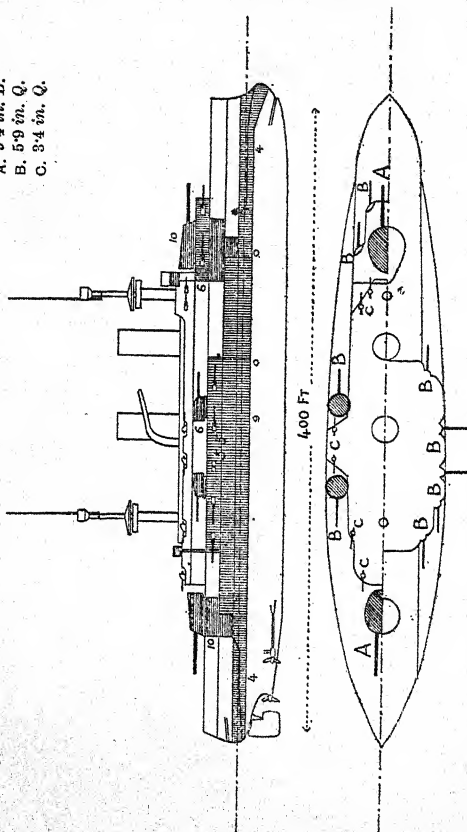
## WITTELSBACH CLASS.

Armour, K.S.

A. 9'4 in. B.

B. 5'9 in. Q.

C. 3'4 in. Q.

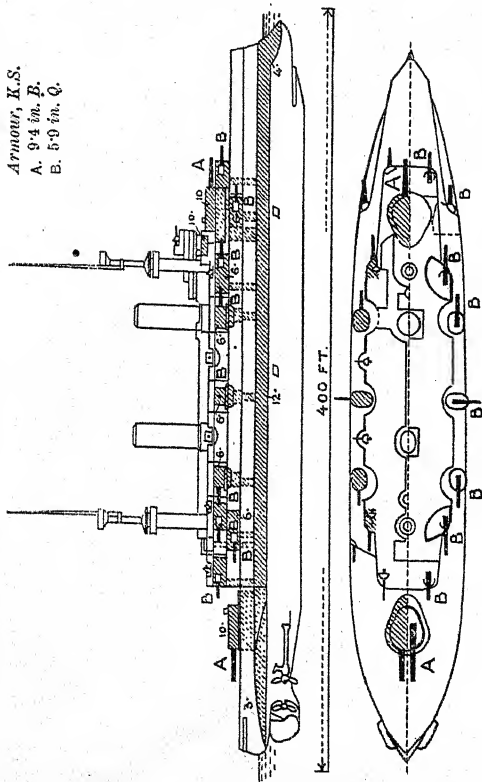


## KAISER FRIEDRICH III. CLASS.

Armour, K.S.

A. 9.4 in. B.

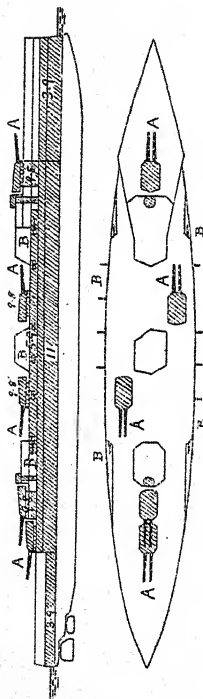
B. 5.9 in. Q.



(This class now has 2 pole masts.)

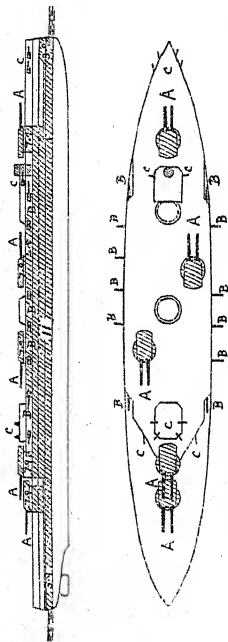
*Armour, Krupp.*  
 A. 11 in. (50 cal.).  
 B. 5.9 in. (50 cal.).

\*SEYDLITZ.



\* MOLTKE CLASS.

- *Armour, Krupp.*
- A. 11 in. (45 cal.).
- B. 5.0 in. (45 cal.).
- C. 3.4 in.



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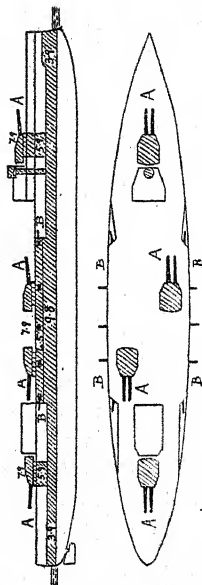
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*Armour, K.S.*

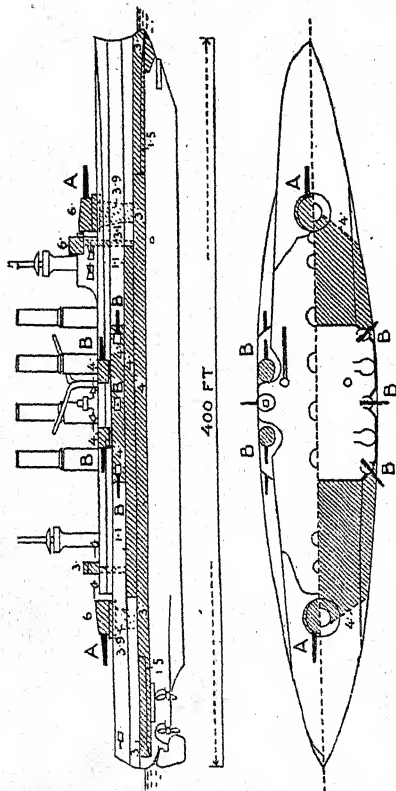
- A. 11 in. B.  
B. 5.9 in. Q.  
C. 3.4 in. Q.

\*VON DER TANN.



Armour, K.S.  
A. 8.2 in. B.  
B. 5.9 in. Q.

## YORCK CLASS.



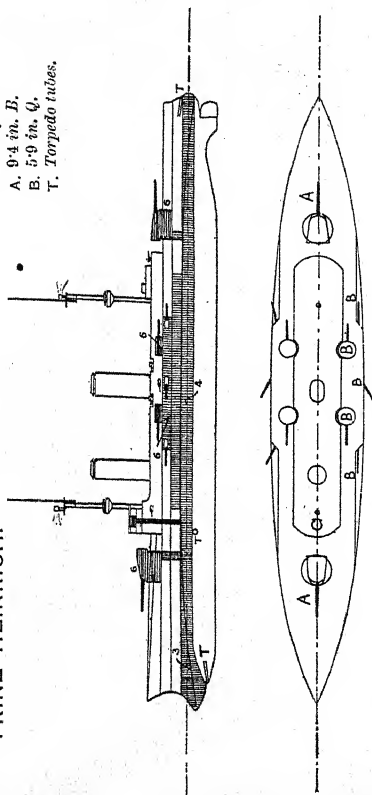
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PRINZ HEINRICH.

Armour, K.S.  
A. 9.4 in. B.  
B. 5.9 in. Q.  
T. Torpedo tubes.



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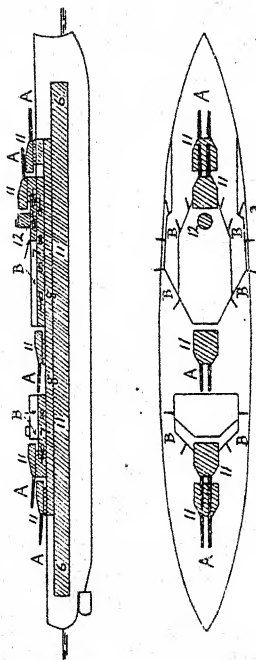
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quest.

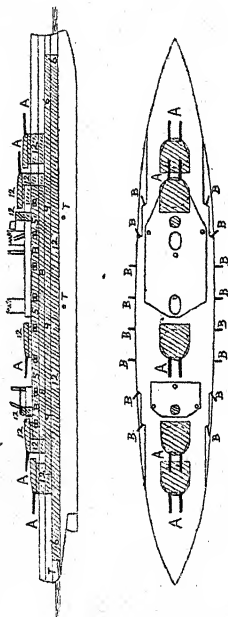
## CANADA.

*Armour, Krupp.*  
 A. 14 in. (45 cal.).  
 B. 4.7 in. (50 cal.).



Armour, Krupp.  
A. 13.5 in. (45 cal.).  
B. 4.7 in. (50 cal.).

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PRINCIPAL CONT

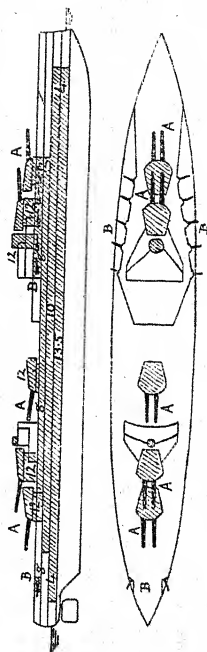
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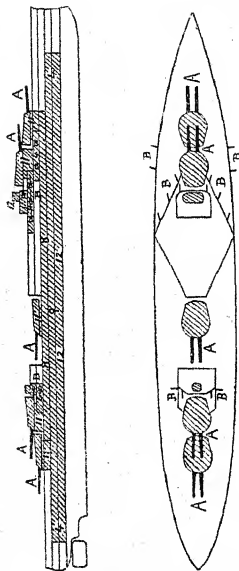
## \*IRON DUKE CLASS.

*Armour, Krupp.*  
 A. 13.5 in. (45 cal.).  
 B. 6 in. (50 cal.).



## \* KING GEORGE V. CLASS.

- Armour, Krupp.
- A. 13.5 in. (46 cal.).
- B. 4 in. (50 cal.).



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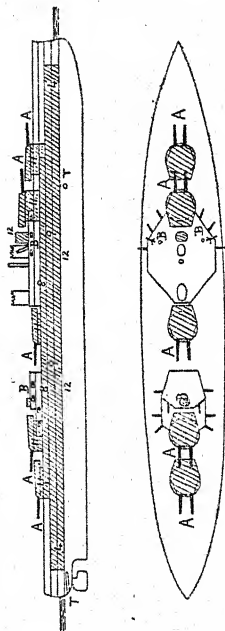
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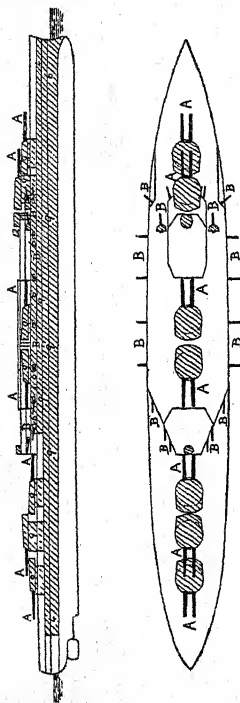
*Armour, Krupp.*  
 A. 13.5 in. (45 cal.).  
 B. 4 in. (50 cal.).

\* ORION CLASS.



Armour, Krupp.  
A. 12 in. (50 cal.).  
B. 6 in. (50 cal.).

\*AGING COURT.



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Their Impact on India

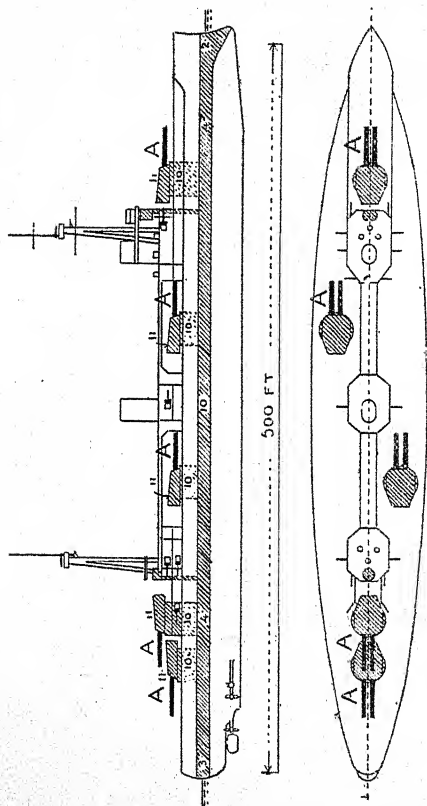
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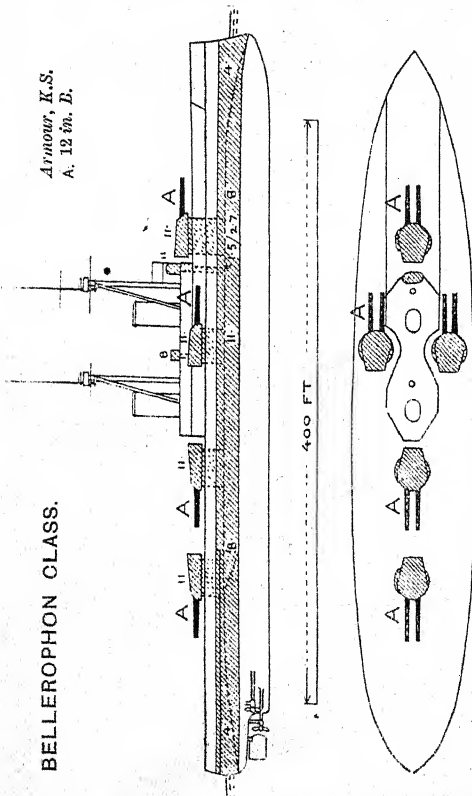
*Armour, K.S.  
A. 12 in. B.*

NEPTUNE.



BELLEROPHON CLASS.

Armour, K.S.  
A. 12 in. B.



(Dreadnought the same except for rig. *St. Vincent* class the same with different thickness of armour.)

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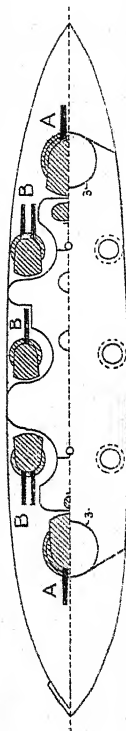
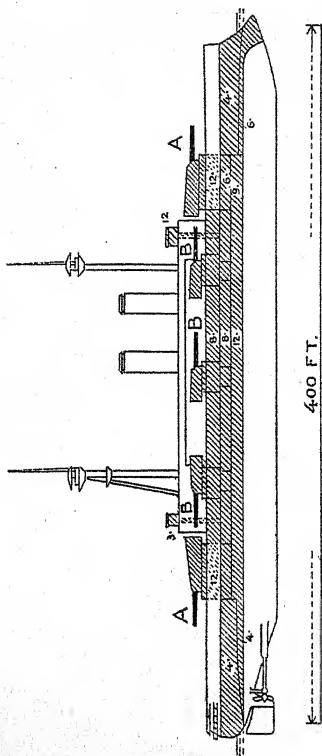
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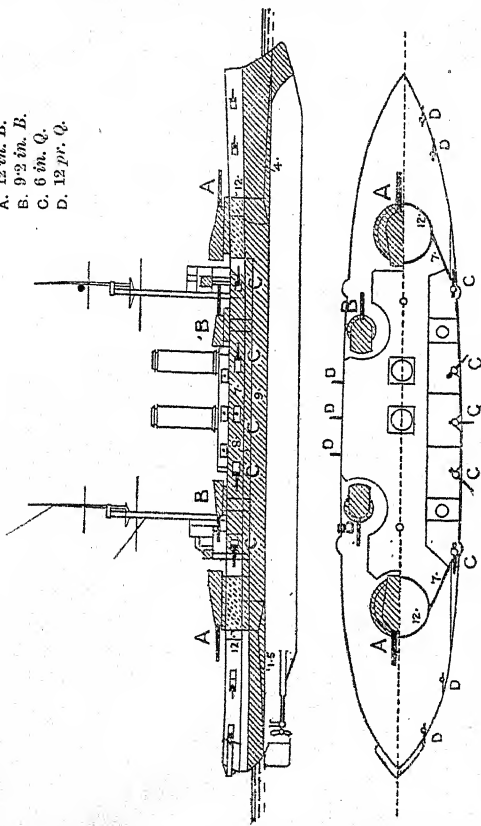
*Armour, K.S.*  
 A. 12 in. B.  
 B. 9.2 in. B.

LORD NELSON CLASS.



KING EDWARD VII. CLASS

Armour, K.S.  
A. 12 in. B.  
B. 9.2 in. C.  
C. 6 in. Q.  
D. 12 pr. Q.



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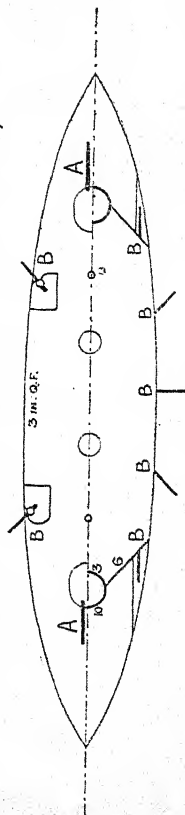
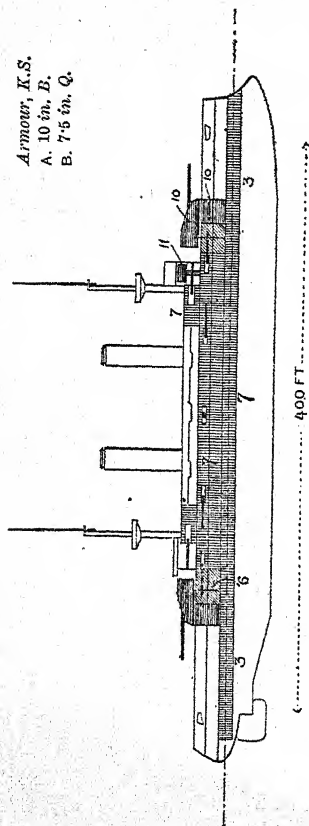
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## SWIFTSURE CLASS.

Armour, K.S.  
A. 10 in. B.  
B. 7.5 in. Q.

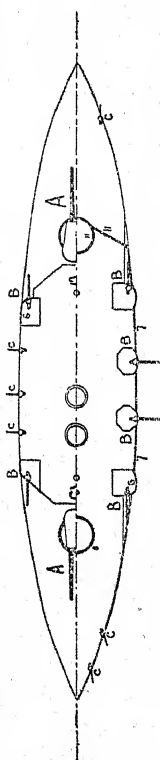
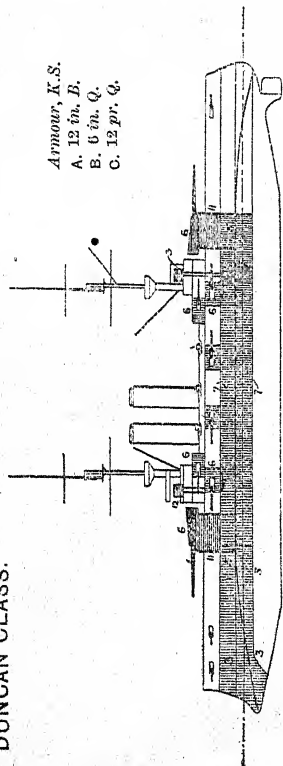


Armour, K.S.

A. 12 in. B.

B. 6 in. Q.

C. 12 pr. Q.



(The 12 prs. fore and aft on the maindeck have been removed to positions on the shelter decks, under the fore and aft bridges.)

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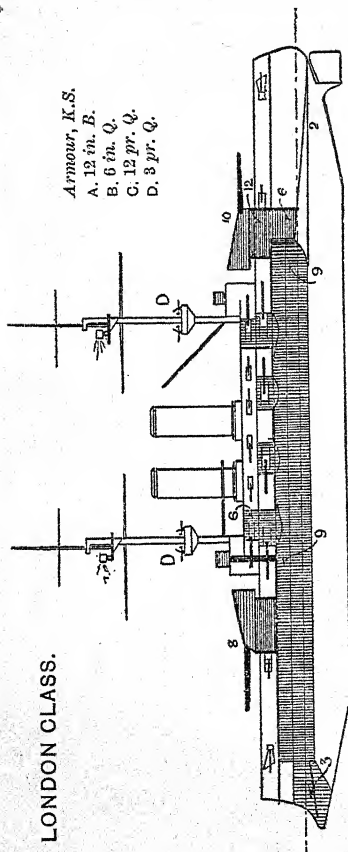
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## LONDON CLASS.



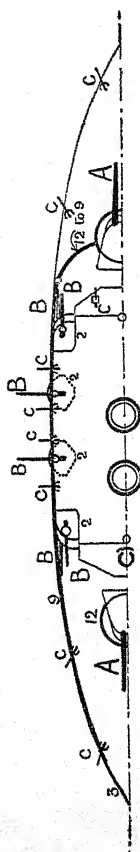
Armour, K.S.

A. 12 in. B.

B. 6 in. Q.

C. 12 pr. Q.

D. 3 pr. Q.



(Implacable class the same except for different arrangement of armour forward.)

CANOPUS CLASS.

Armour, H.N.S

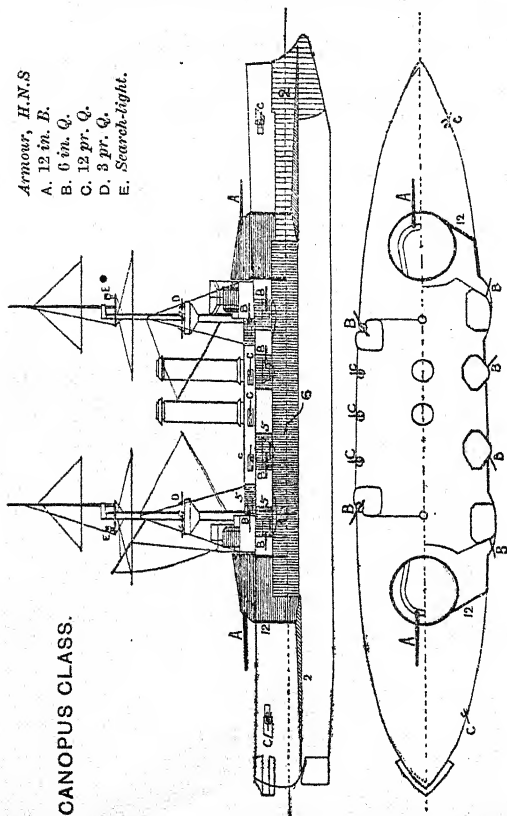
A. 12 in. B.

B. 6 in. Q.

C. 12 pr. Q.

D. 3 pr. Q.

E. Search-light.



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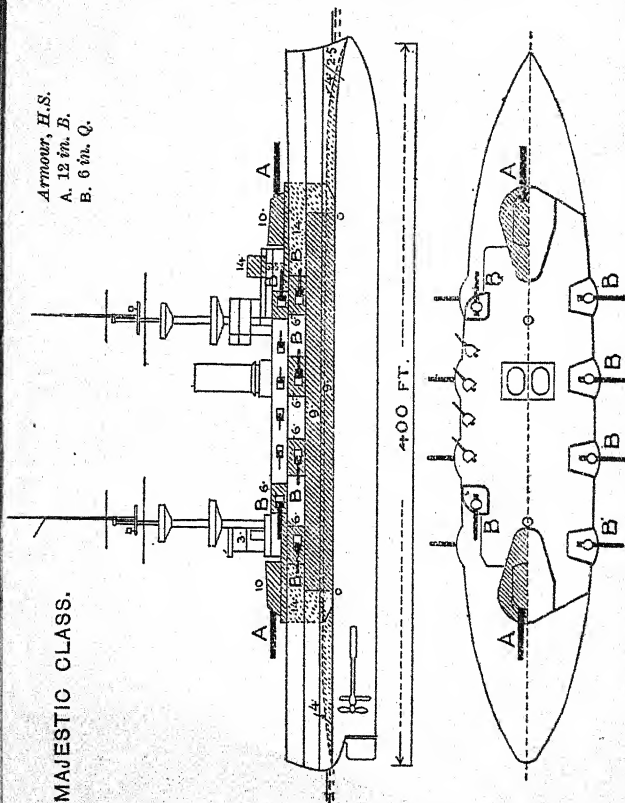
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quest.



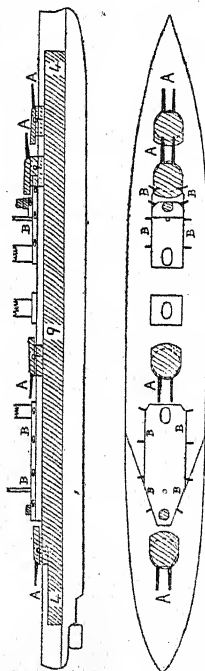
Armour, H.S.  
A. 12 in. B.  
B. 6 in. Q.

MAJESTIC CLASS.



Armour, Krupp.  
A. 13.5 in. (45 cal.).  
B. 4 in. (50 cal.).

\* LION CLASS.



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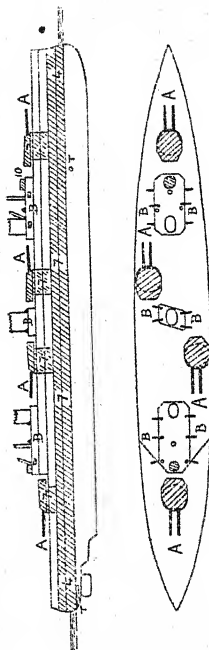
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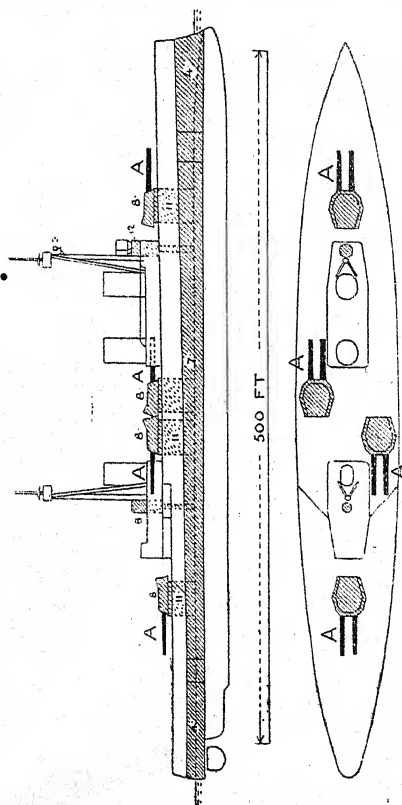
*Armour, Krupp.*  
 A. 12 in. (50 cal.).  
 B. 4 in. (50 cal.).

\* INDEFATIGABLE CLASS



Armour, K.S.  
A. 12 in. (45 cal.).

INVINCIBLE CLASS.



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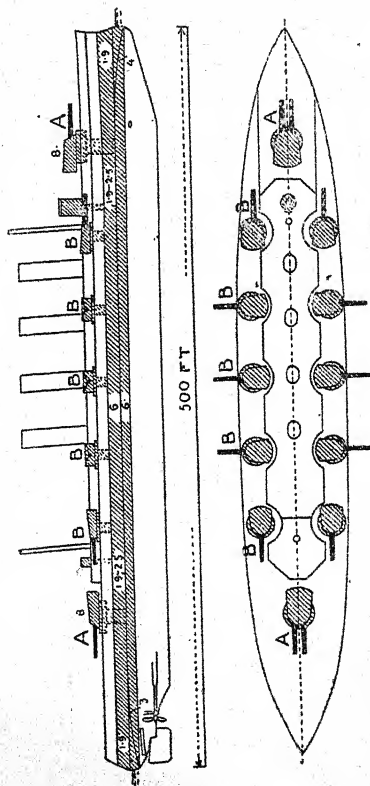
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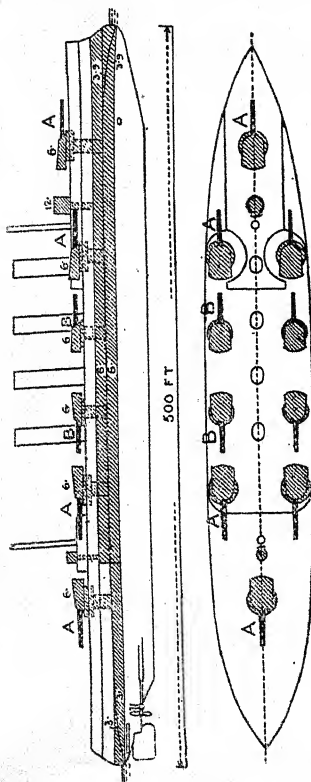
*Armour, K.S.*  
 A. 9.2 in. B.  
 B. 7.5 in. B.

## MINOTAUR CLASS.



WARRIOR CLASS.

Armour, K.S.  
A. 9.2 in. B.  
B. 7.5 in. B.



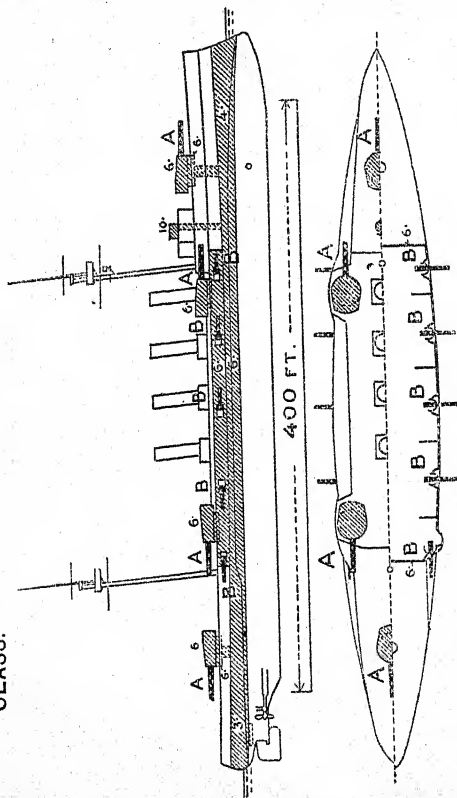
PRINCIPAL CONT

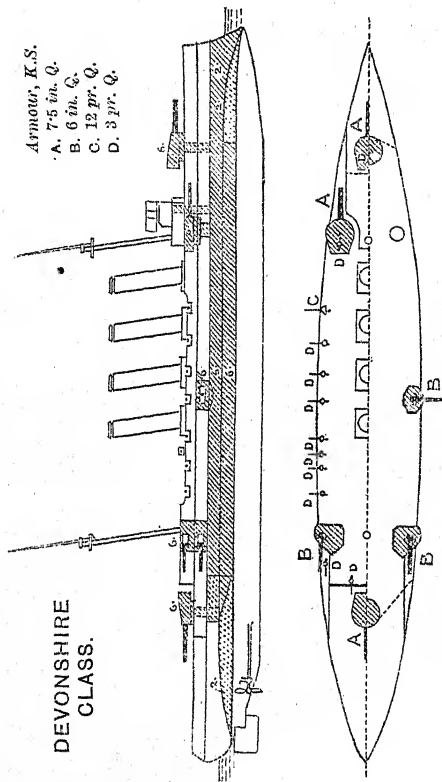
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PV

DUKE OF EDINBURGH  
CLASS.

Armour, K.S.  
A. 9.2 in. B.  
B. 6 in. Q.





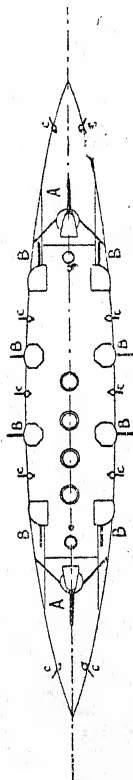
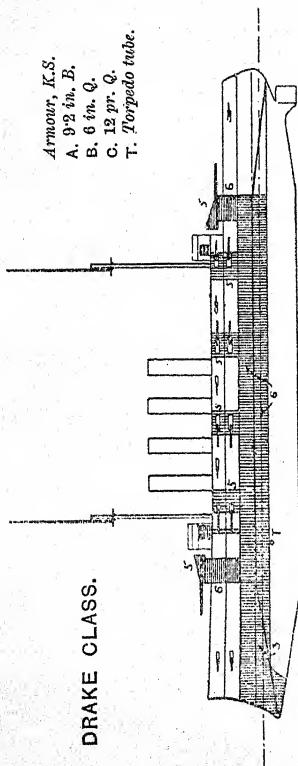
DEFENSE  
 870)

CONTENTS



DRAKE CLASS.

Armour, K.S.  
 A. 9'2 in. B.  
 B. 6 in. Q.  
 C. 12 pr. Q.  
 T. Torpedo tube.

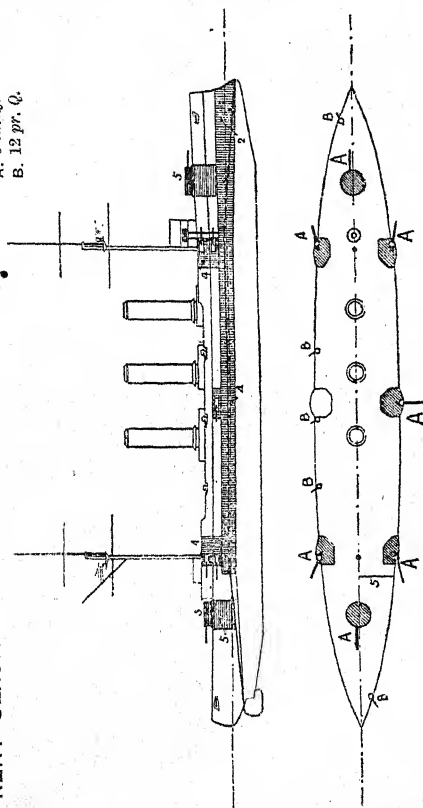


(Bow 12 pr. ports on maindeck have been sealed up.)

*Armour, K.S., but  
H.N.S. on turrets.*

A. 6 in. Q.  
B. 12 pr. Q.

KENT CLASS.



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## EURYALUS CLASS.

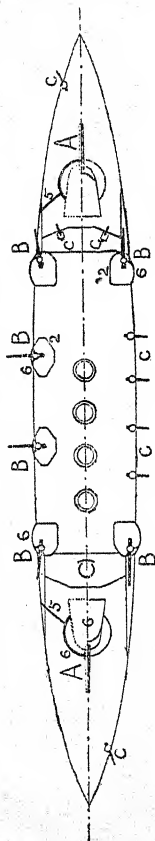
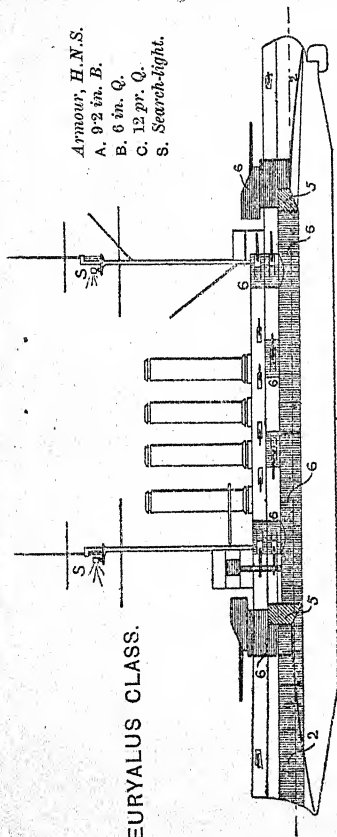
Armour, H.N.S.

A. 9.2 in. B.

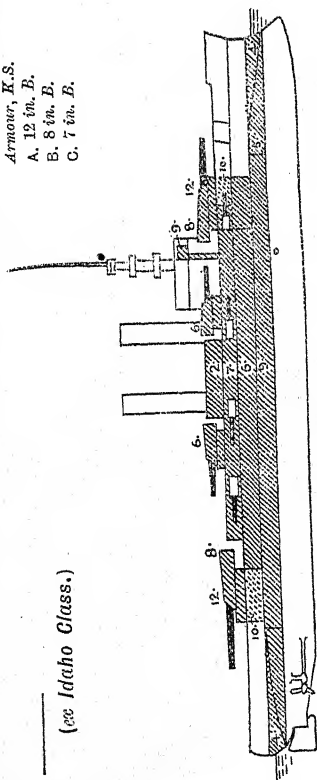
B. 6 in. Q.

C. 12 pr. Q.

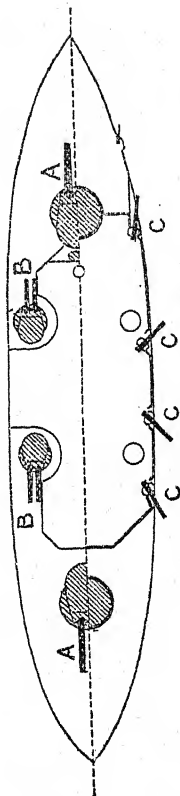
S. Search-light.



Armour, K.S.  
 A. 12 in. B.  
 B. 8 in. B.  
 C. 7 in. B.



(see Idaho Class.)



(Have now two lattice-work masts.)

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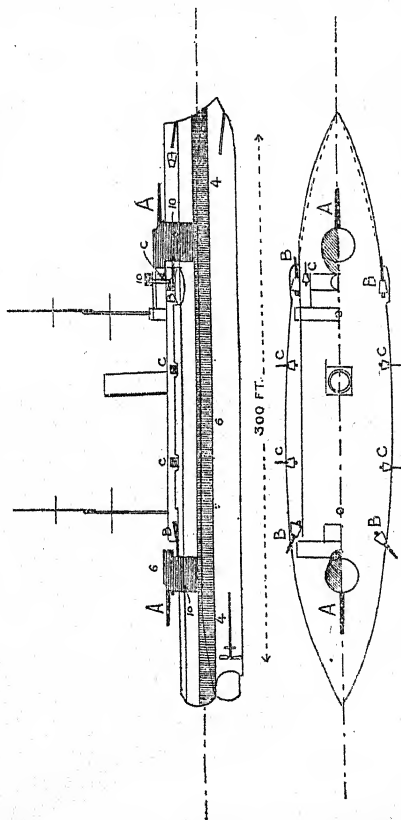
*Armour, H.N.S.*

A. 9'4 in. B.

B. 5'9 in. Q.

C. 12 pr. Q.

# KONINGEN REGENTES CLASS.



DEFENSE

370)

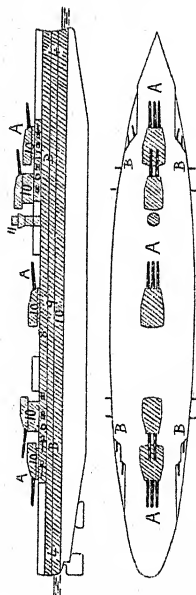
CONTENTS

## \* CAIO DUILIO CLASS.

*Armour, Terni.*

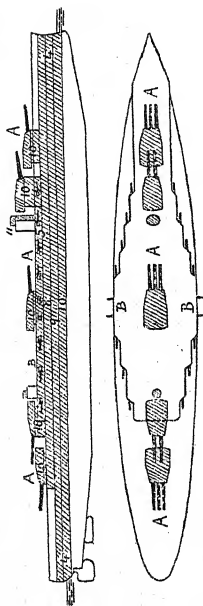
A. 12 in. (45 cal.).

B. 6 in. (50 cal.)



\* CONTE DI CAVOUR  
CLASS.

*Armour, Terni.*  
A. 12 in. (46 cal.).  
B. 4.7 in. (50 cal.).



NA

DEFENSE

370)

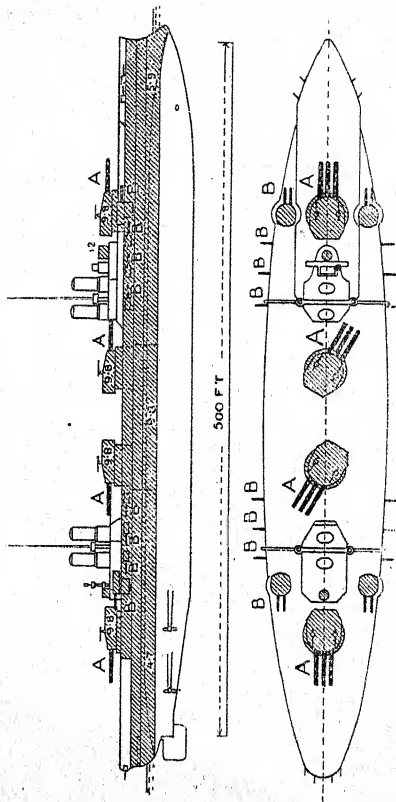


CONTENT



DANTE  
ALIGHIERI.

*Armour, Terni.*  
A. 12 in. B.  
B. 4.7 in. Q.



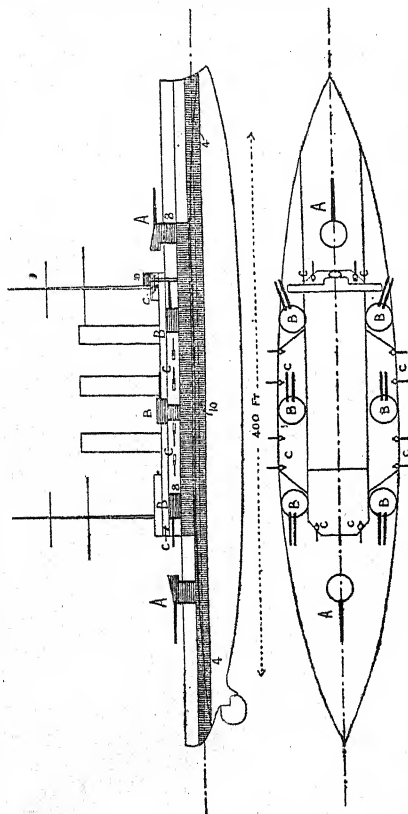
Armour, Terni.

A. 12 in. B.

C. 8 in. Q.

C. 12 pr. Q.

VITTORIO EMANUELE CLASS.



(The 12-pounder upper deck battery is protected by 3 in. armour.)  
(*Regina Elena* has only one mast.)

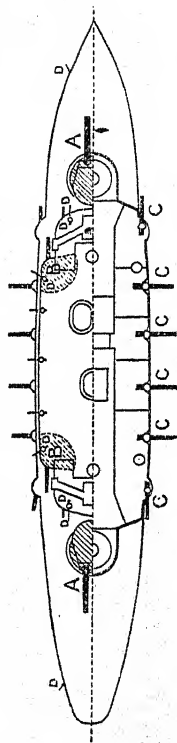
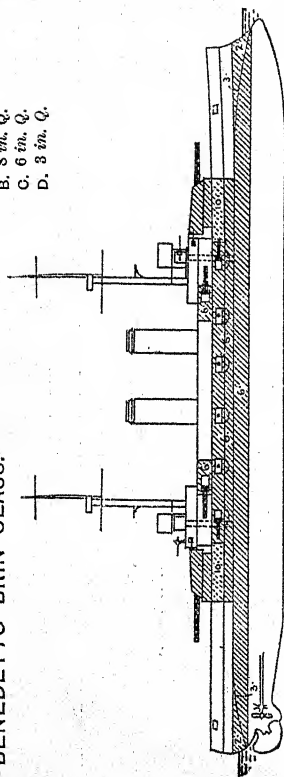
DEFENSE  
370)



## BENEDETTO BRIN CLASS.

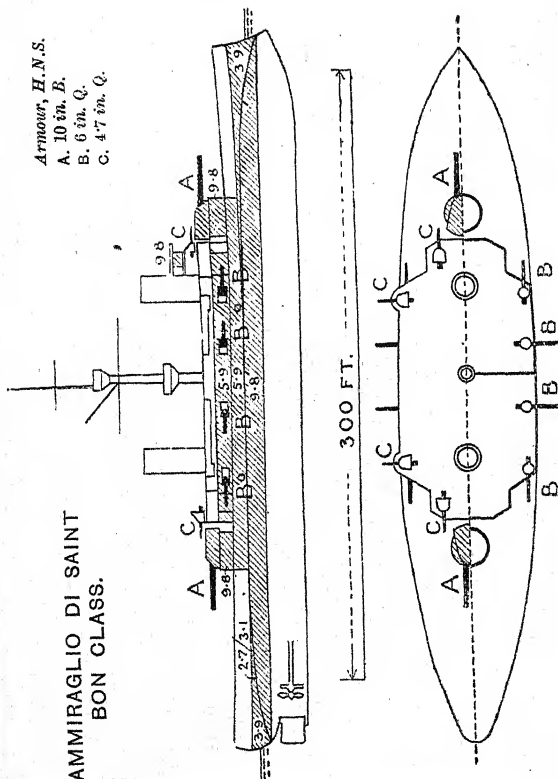
*Armour, Terni S.*

- A. 12 in. B.  
 B. 8 in. Q.  
 C. 6 in. Q.  
 D. 3 in. Q.



Armour, H.N.S.  
A. 10 in. B.  
B. 6 in. Q.  
C. 4.7 in. Q.

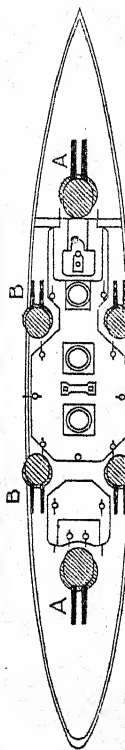
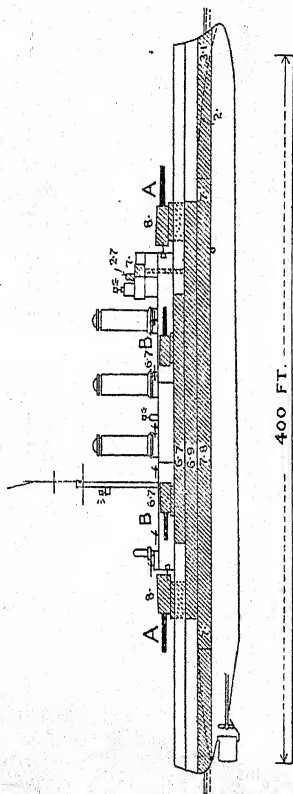
AMMIRAGLIO DI SAINT  
BON CLASS.



DEFENSE  
370)

Armour, *Terni S.*  
 A. 10 in. B.  
 B. 7.5 in. Q.

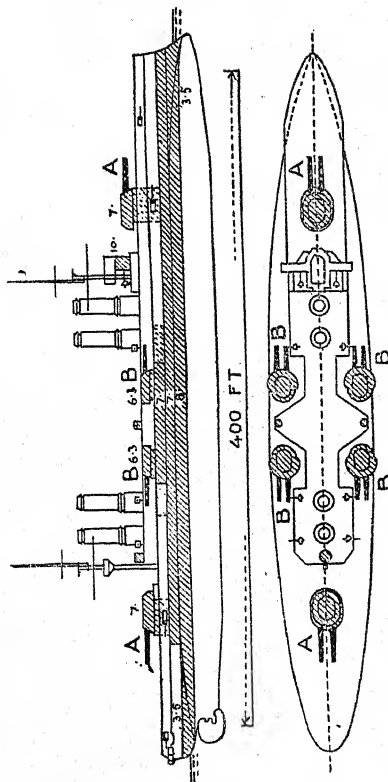
## PISA CLASS.



*Armour, Terni S.*

- A. 10 in. B.
- B. 7.5 in. Q.

SAN GIORGIO CLASS.

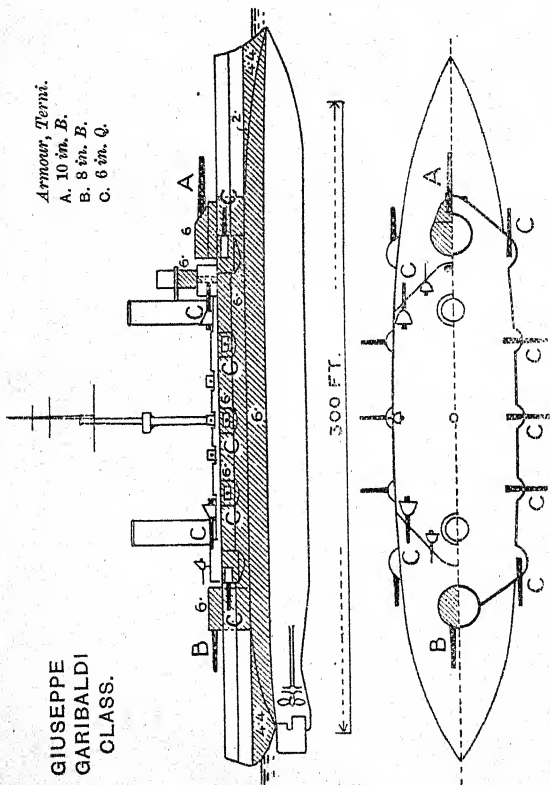


(The masts as shown have been removed, and a pole mast before the after pair of funnels substituted.)

DEFENSE  
370)

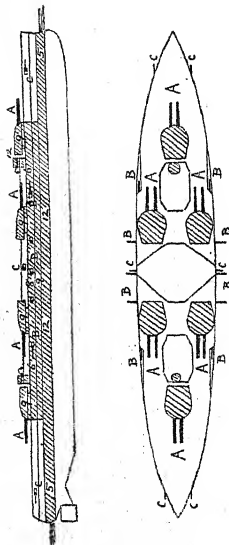
GIUSEPPE  
GARIBALDI  
CLASS.

Armour, Terni.  
A. 10 in. B.  
B. 8 in. B.  
C. 6 in. Q.



## \* KAWACHI CLASS.

*Armour, Krupp.*  
 A. 12 in. (45 cal.).  
 B. 6 in. (50 cal.).  
 C. 4.7 in. (50 cal.).



DEFENSE

370)



AL CONTENT



*Armour, K.S.*

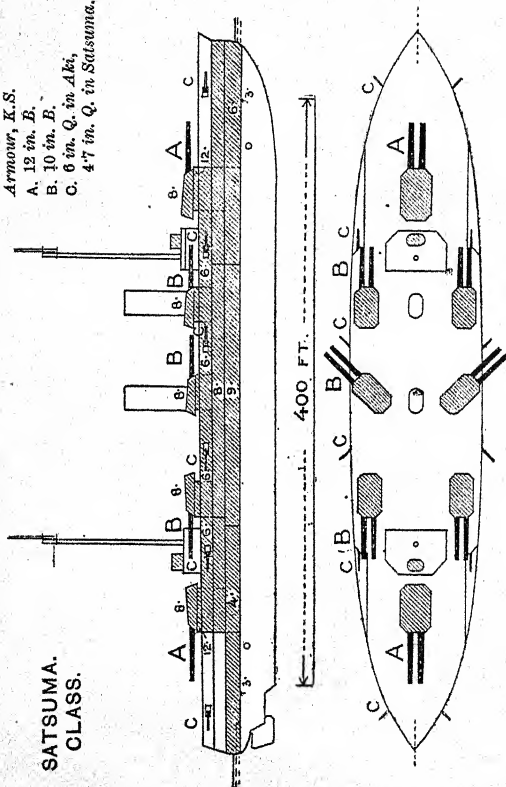
A. 12 in. B.

B. 10 in. B.

C. 6 in. Q. in Aki,

4.7 in. Q. in Satsuma.

SATSUMA.  
CLASS.



(Aki has 3 funnels.)

## KASHIMA CLASS.

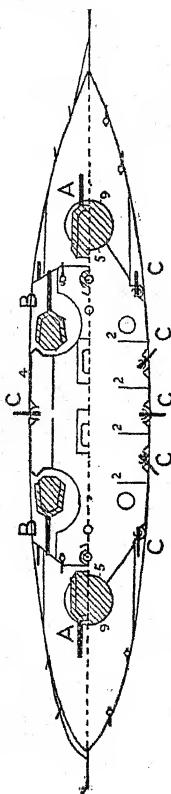
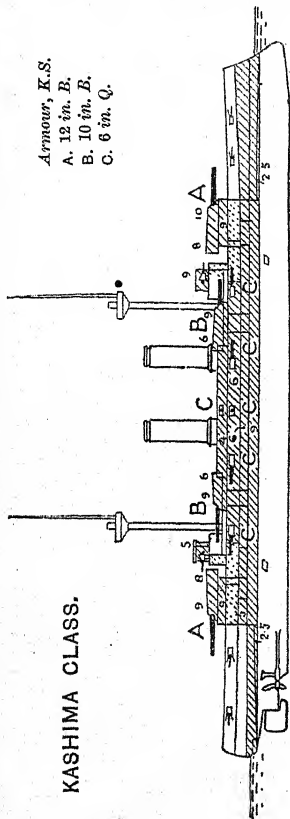
21

Armour, K.S.

A. 12 in. B.

B. 10 in. B.

C. 6 in. Q.



(No tops have been fitted.)

DEFENSE

370)



## SHIKISHIMA CLASS.

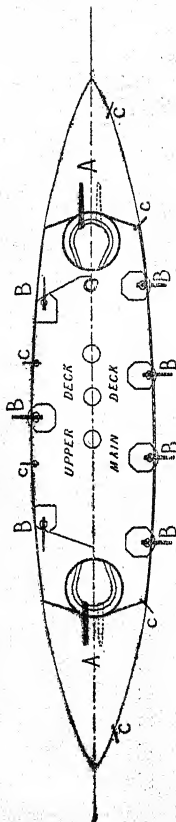
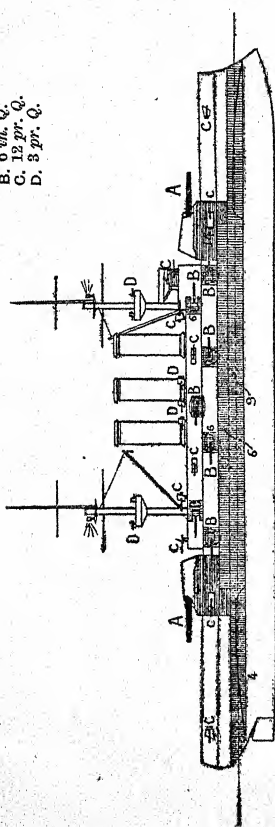
Armour, H.N.S.

A. 12 in. B.

B. 6 in. Q.

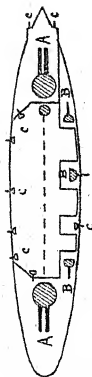
C. 12 pr. Q.

D. 3 pr. Q.

(Both tops have been removed. The *Asahi* has 2 funnels.)

IWAMI.  
(*ex Ore.*)

Armour, Krupp.  
A. 12 in. (45 cal.).  
B. 8 in. (45 cal.).  
C. 3 in. (12 pr.).



NA

DEFENSE

370)



AL CONTENT

## SAGAMI CLASS.

Armour, H.S.

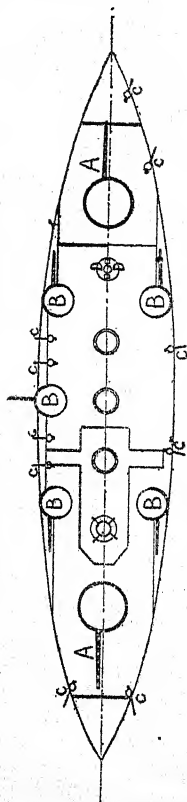
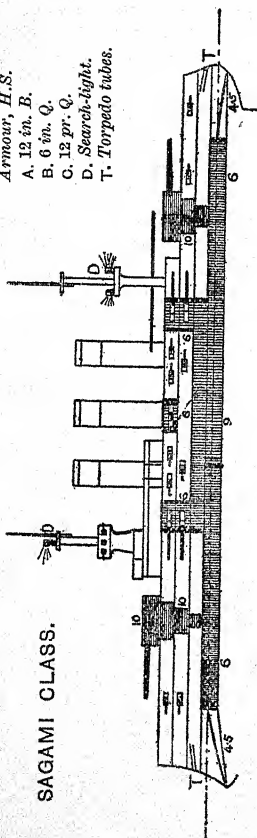
A. 12 in. B.

B. 6 in. Q.

C. 12 pr. Q.

D. Search-light.

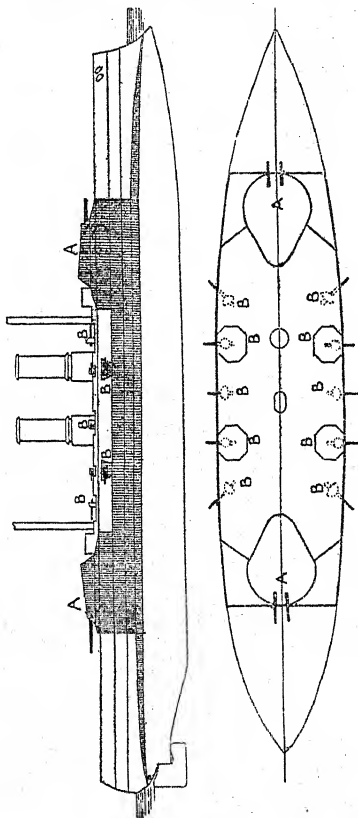
T. Torpedo tubes.

(Rig altered to 2 pole masts in *Suwo*.)

(Suwo has complete belt, and six of the maindeck 12 prs. placed on top of the casemates.)

Armour, H.S.  
A. 12 in. B.  
B. 6 in. Q.

FUJI.



NA

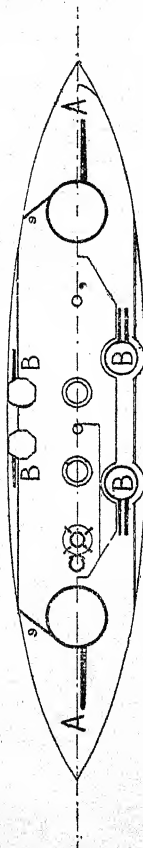
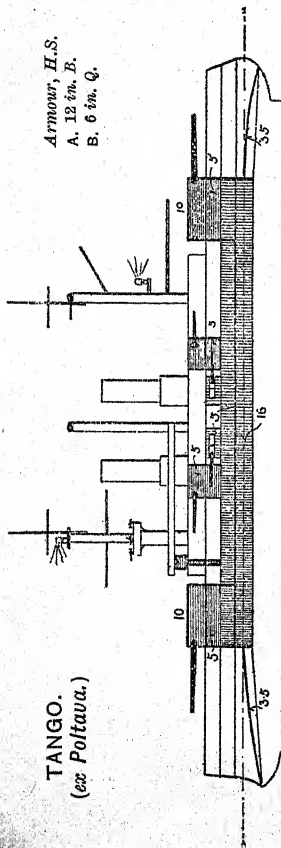
DEFE

370)



TANGO.  
(*ex Poltava.*)

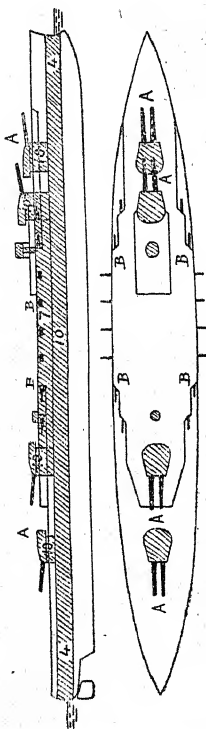
Armour, H.S.  
A. 12 in. B.  
B. 6 in. Q.



(Funnels lengthened after design. The machine guns have been removed from top.)

## \* KONGO CLASS.

*Armour, Krupp.*  
 A. 14 in. (45 cal.).  
 B. 6 in. (50 cal.).



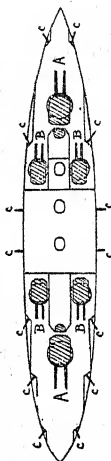
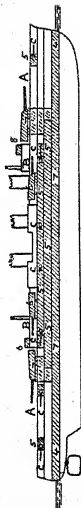
DEFENSE  
 370)





## \* IBUKI CLASS.

*Armour, Krupp.*  
 A. 12 in. (45 cal.).  
 B. 8 in. (45 cal.).  
 C. 4·7 in. (50 cal.).



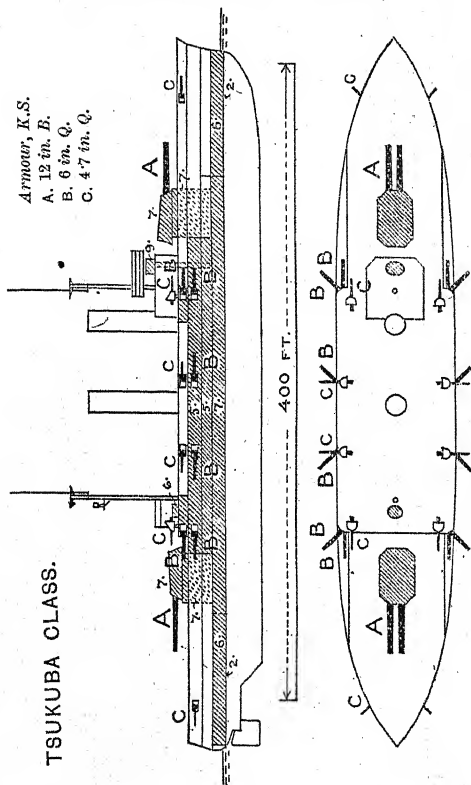
## TSUKUBA CLASS.

Armour, K.S.

A. 12 in. B.

B. 6 in. Q.

C. 4-7 in. Q.



DEFENSE

370)



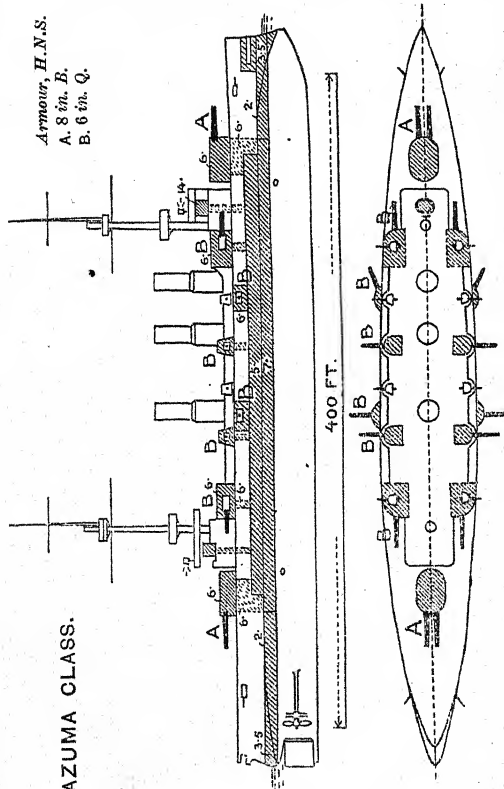


## AZUMA CLASS.

Armour, H.N.S.

A. 8 in. B.

B. 6 in. Q.



(The upper tops have been removed. *Yakumo* has her two after maindeck 6-in. casemates farther aft, and her two after upper deck 6-in. guns, in shields, farther forward.)

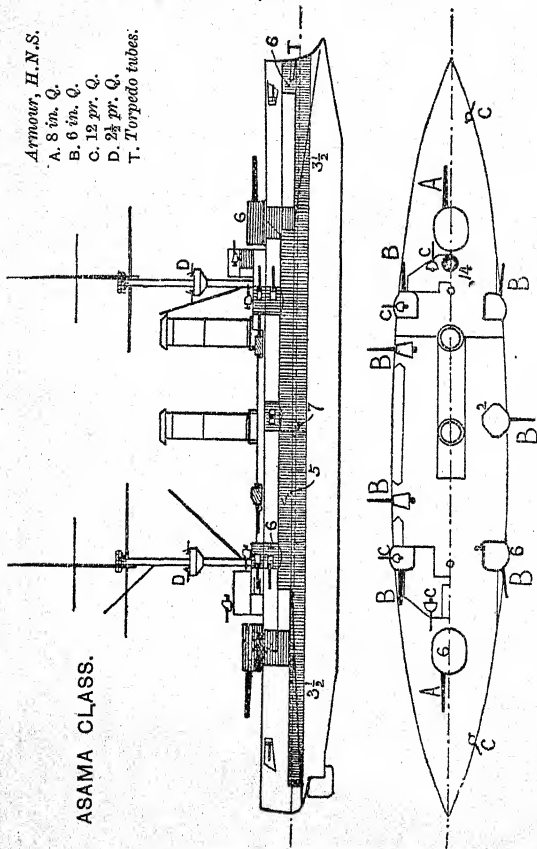
DEFENSE

370)

*Armour, H.N.S.*

- A. 8 in. Q.  
 B. 6 in. Q.  
 C. 12 pr. Q.  
 D.  $2\frac{1}{2}$  pr. Q.  
 T. Torpedo tubes.

ASAMA CLASS.

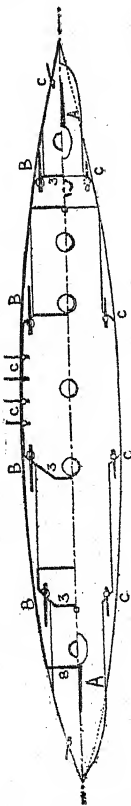
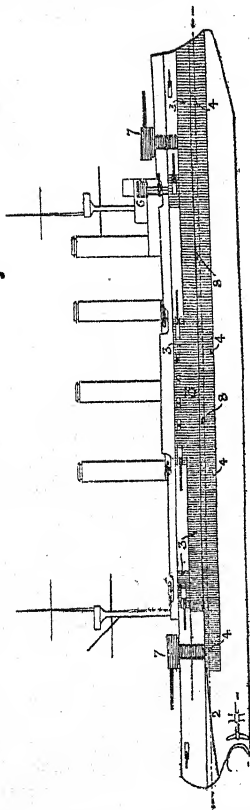


Armour, K.S.

A. 8 in. Q.

B. 6 in. Q.

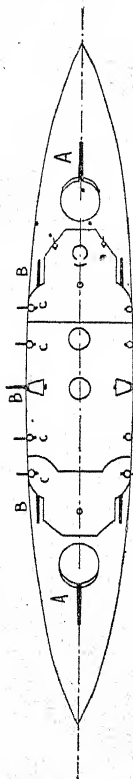
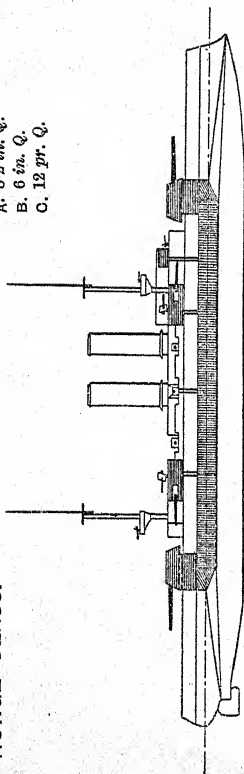
C. 12 pr. Q.

ASO.  
(ex Bayan.)

(Both tops have been removed.)

NA  
DEFENSE  
870)

## NORGE CLASS.

*Armour, K.S.**A. 8.2 in. Q.**B. 6 in. Q.**C. 12 pr. Q.*

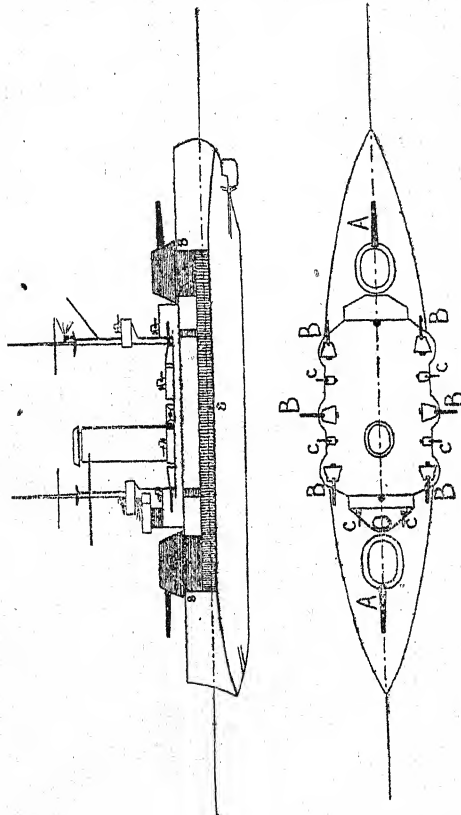
*Armour, H.N.S.*

A. 8<sup>2</sup> in. Q.

B. 4<sup>7</sup> in. Q.

C. 12 pr. Q.

# HARALD HAARFAGRE CLASS.



DEFENSE

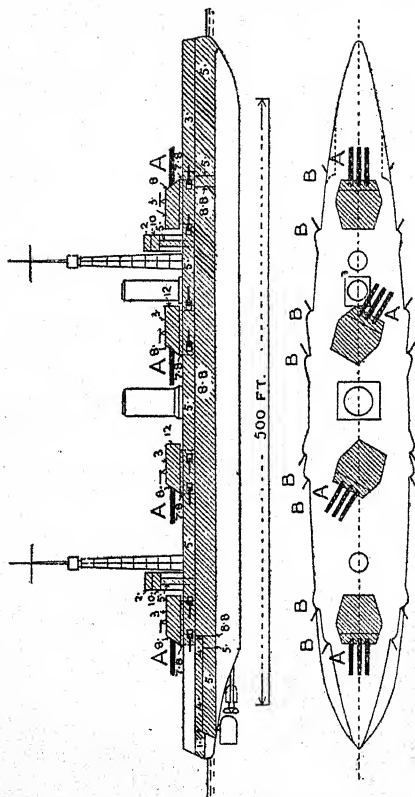
370)





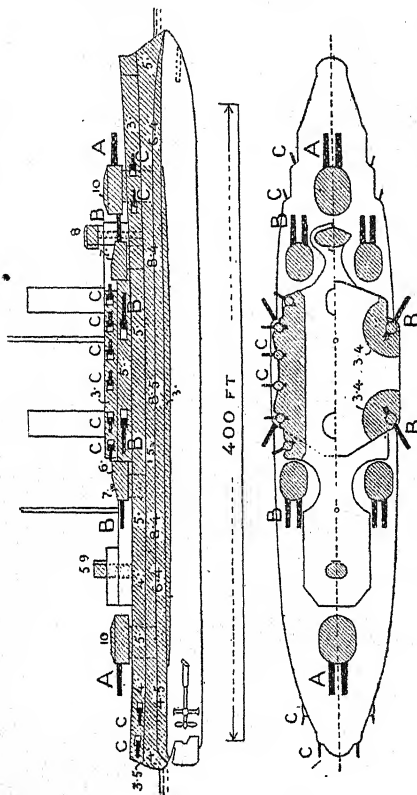
*Armour, Krupp.*  
 A. 12 in. B.  
 B. 4.7 in. Q.

GANGUT CLASS.



Armour, K.S.  
A. 12 in. B.  
B. 8 in. B.  
C. 4.7 in. Q.

IMPERATOR PAVEL I.  
CLASS.



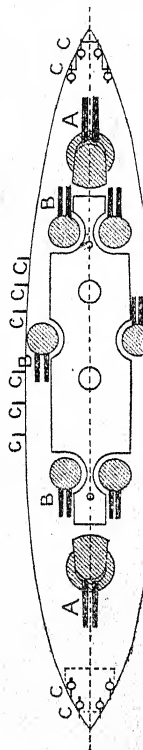
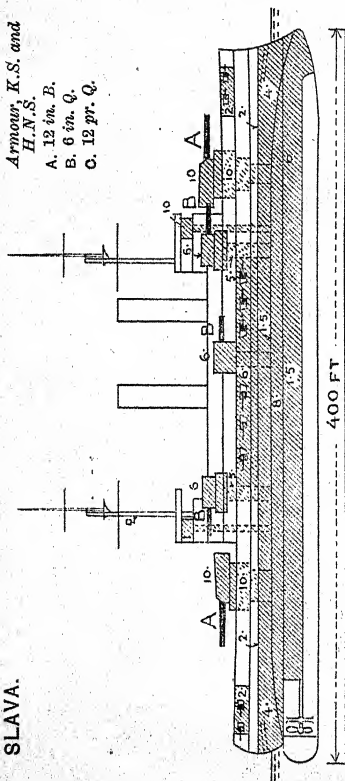
(These have lattice-work towers in place of masts, and one more 8 in. B. on either beam amidships.)

DEFENSE  
370)

## SLAVA.

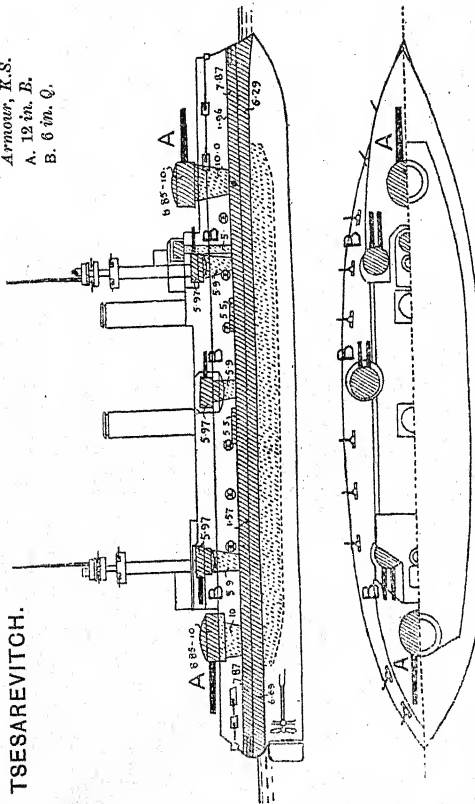
*Armour, K.S. and  
H.N.S.*

- A. 12 in. B.  
B. 6 in. Q.  
C. 12 pr. Q.



TSESAREVITCH.

Armour, K.S.  
A. 12 in. B.  
B. 6 in. Q.



(The military masts have been replaced by pole masts, without tops.)

DEFENSE  
870)

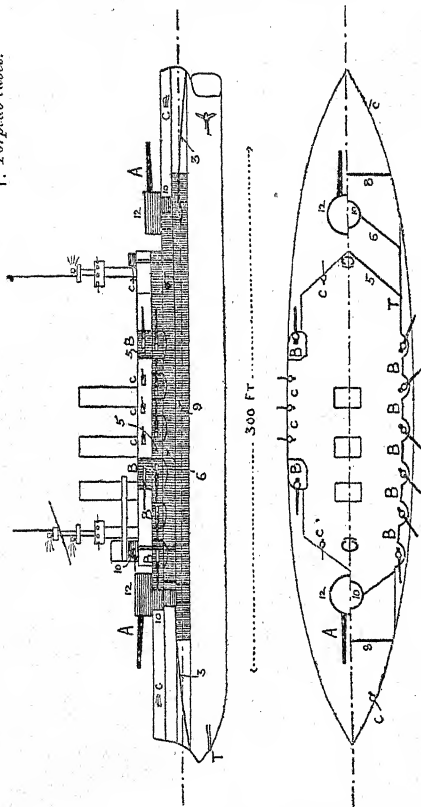


AL CONTENT



Armour, K.S.  
A. 12 in. B.  
B. 6 in. Q.  
C. 12 pr. Q.  
T. Torpedo tubes.

PANTELEIMON.



NA

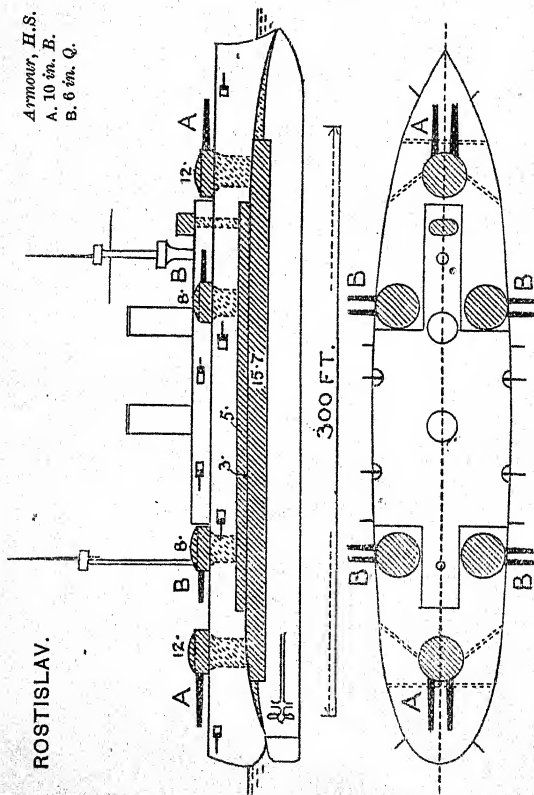
DEFENSE

870)



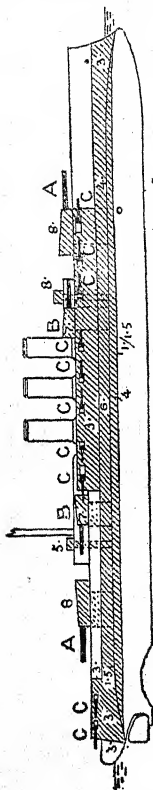
Armour, H.S.  
A. 10 in. B.  
B. 6 in. Q.

ROSTISLAV.

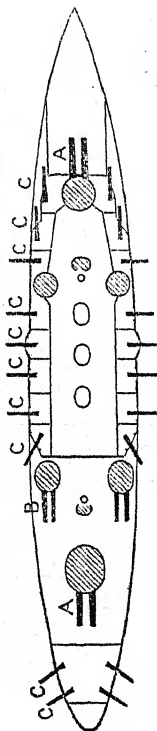


Armour, Krupp.  
A. 10 in. B.  
B. 8 in. B.  
C. 4.7 in. Q.

RYURIK.



400 FT.



(Has also a pole mast forward.)

DEFENSE  
870)

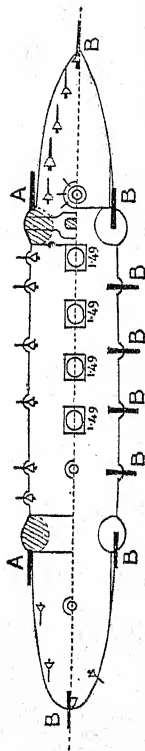
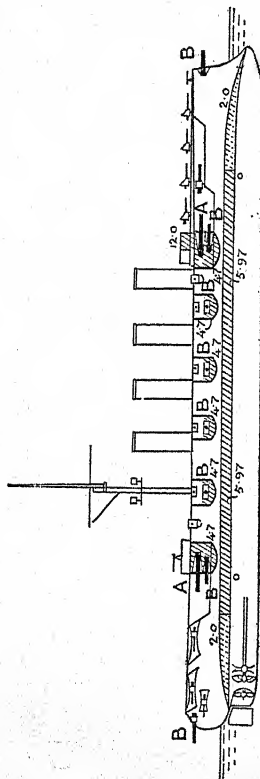


*Armour, H.N.S.*

A. 8 in. Q.

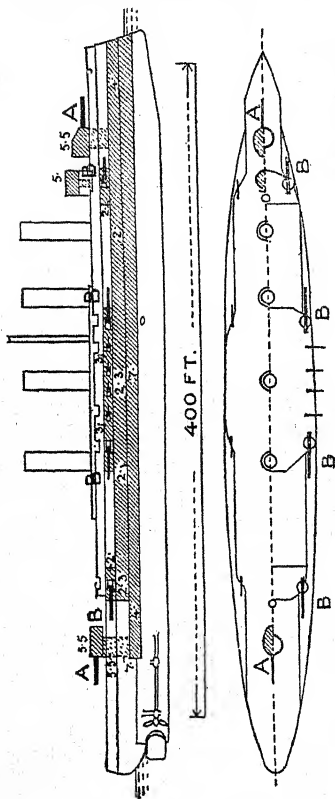
B. 6 in. Q.

GROMOVOL.



Arrow, K.S.  
A, 8 in. B,  
B, 6 in. Q.

ADMIRAL MAKAROV CLASS.

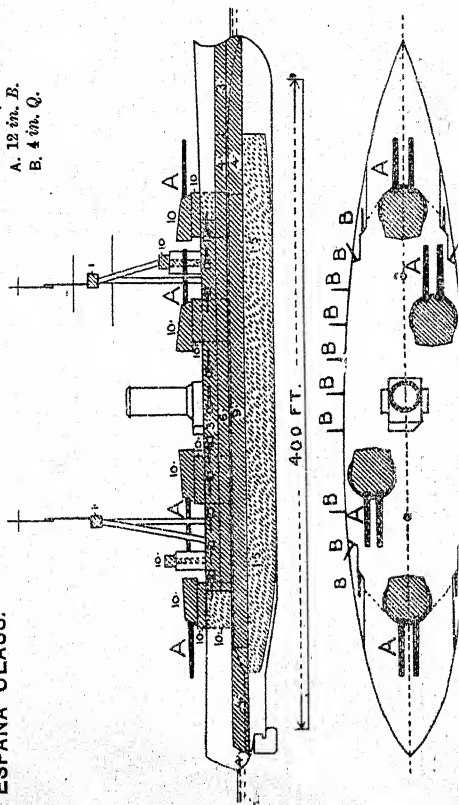


DEFENSE  
370)

PRINCIPAL CONTENT

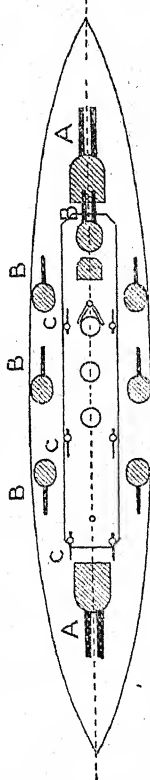
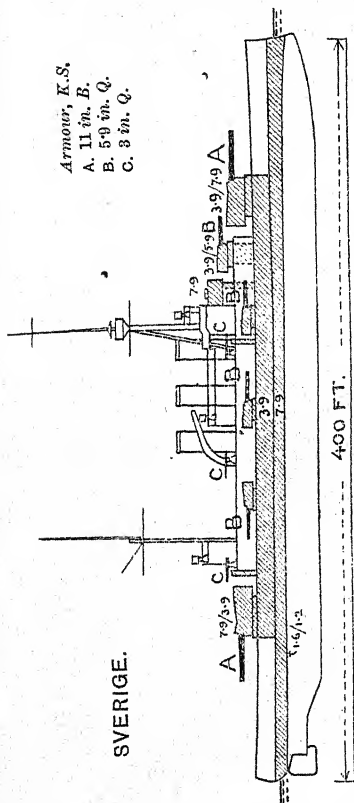
*Armour, K.S.*  
*A. 12 in. B.*  
*B. 4 in. Q.*

ESPAÑA CLASS.



Armour, K.S.  
A. 11 in. B.  
B. 5.9 in. Q.  
C. 3 in. Q.

SVERIGE.



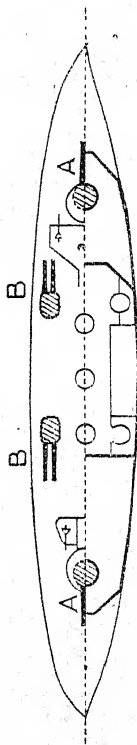
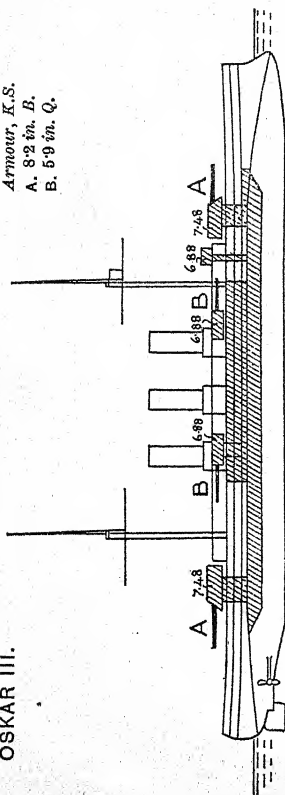
DEFENSE

370)

PRINCIPAL CONTENT

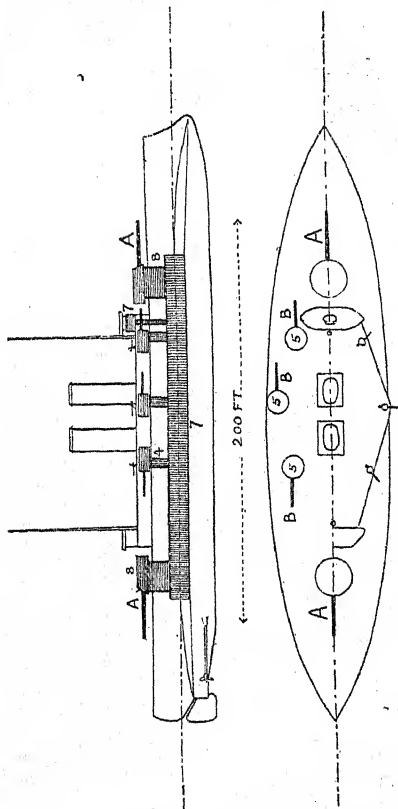
OSKAR III.

Armour, K.S.  
A. 8.2 in. B.  
B. 5.9 in. Q.



Armour, K.S.  
A. 8.2 in. Q.  
B. 5.9 in. Q.

ÄRAN CLASS.



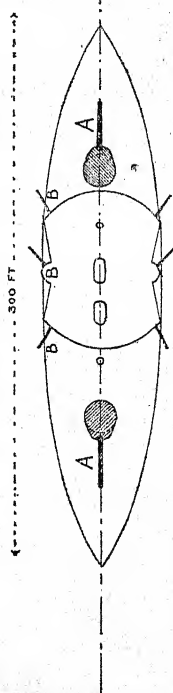
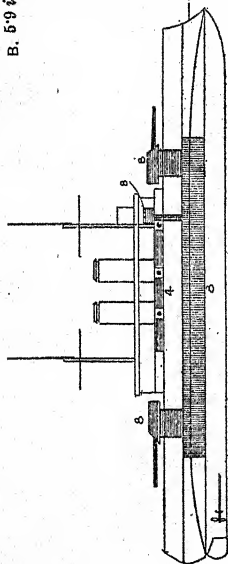
DEFENSE  
370)

PRINCIPAL CONTENT

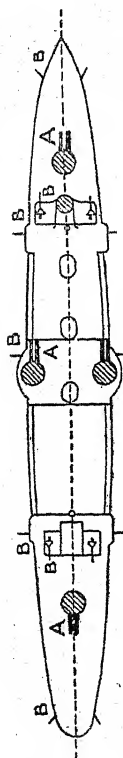
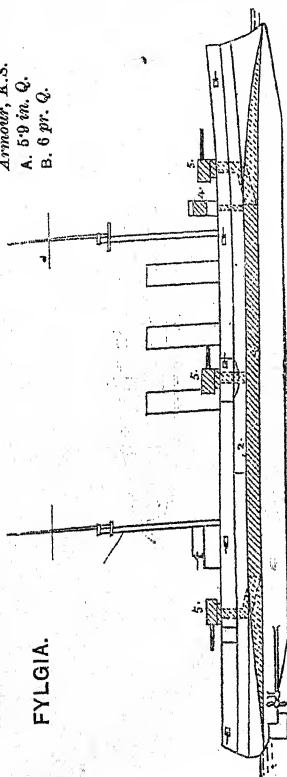
Cyber Warfare and Its Implications for National Security — Shri KVSS

*Armour, K.S.*  
*A. 8.2 in. Q.*  
*B. 5.9 in. Q.*

DRISTIGHETEN.



Armour, K.S.  
A. 5.9 in. Q.  
B. 6 pr. Q.



DEFENSE  
870)

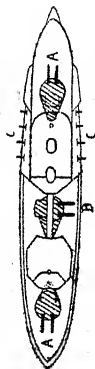
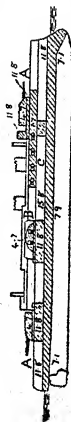


PRINCIPAL CONTENT



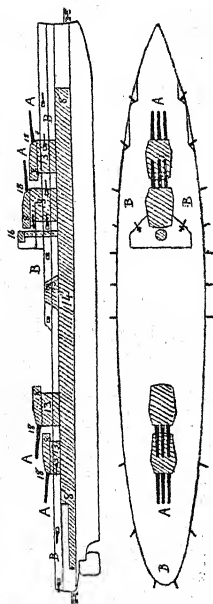
KHEYR-ED-DIN  
BARBAROSSA  
CLASS.

*Armour, Harvey.*  
A. 11 in. (40 cal.).  
B. 11 in. (35 cal.).  
C. 4.1 in. (35 cal.).



*Armour, Krupp.*  
 A. 14 in. (45 cal.).  
 B. 5 in. (45 cal.).

\* PENNSYLVANIA  
 CLASS.



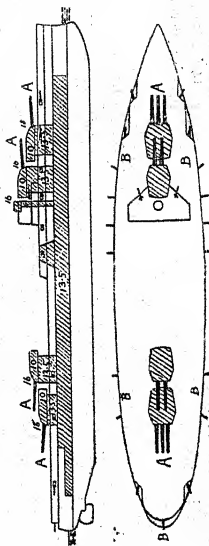
IDEFE

870)

PRINCIPAL CONTENT

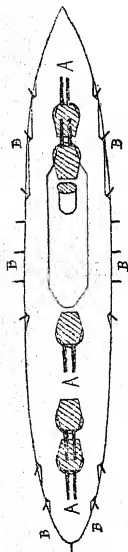
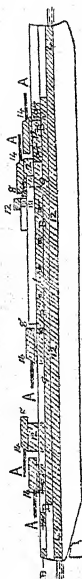
*Armour, Krupp.*  
 A. 14 in. (45 cal.).  
 B. 5 in. (50 cal.).

\* NEVADA CLASS.



*Armour, Krupp.*  
 A. 14 in. (45 cal.).  
 B. 5 in. (50 cal.).

\* TEXAS CLASS.



IDEFE

870)

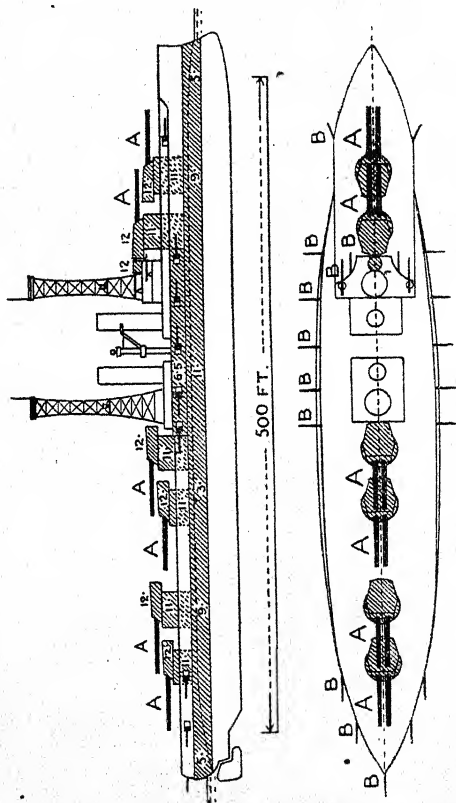
PRINCIPAL CONTENT

*Armour, Krupp.*

A. 12 in. B.

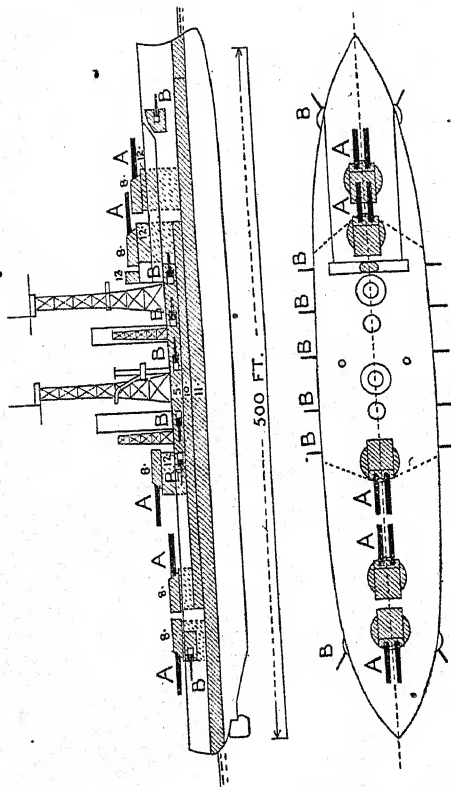
B. 5 in. Q.

# WYOMING CLASS.



Armour, K.S.  
A. 12 in. B.  
B. 5 in. Q.

## DELAWARE CLASS.



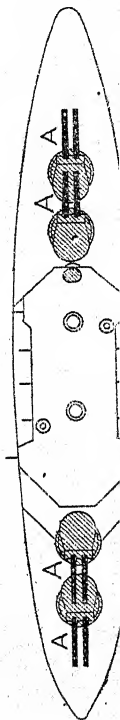
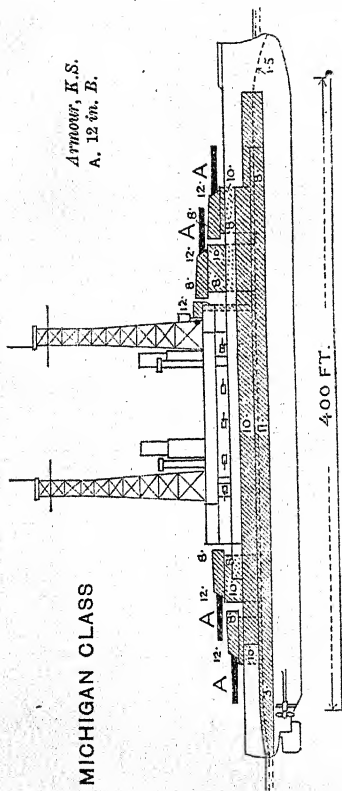
IDEFE  
870)

PRINCIPAL CONTENT

Cyber Warfare and Its Implications for National Security — Shri KVSS

*Armour, K.S.*  
A. 12 in. B.

# MICHIGAN CLASS



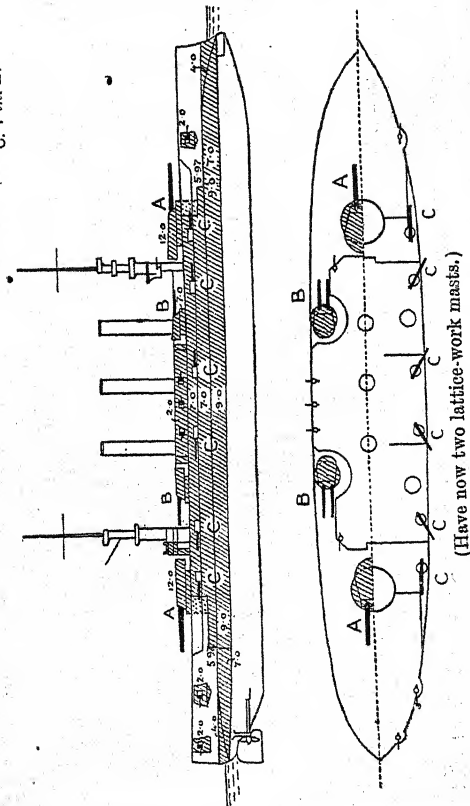
Armour, K.S.

A. 12 in. B.

B. 8 in. B.

C. 7 in. B.

## KANSAS CLASS.



IDEFE

870)

PRINCIPAL CONTENT



## LOUISIANA CLASS.

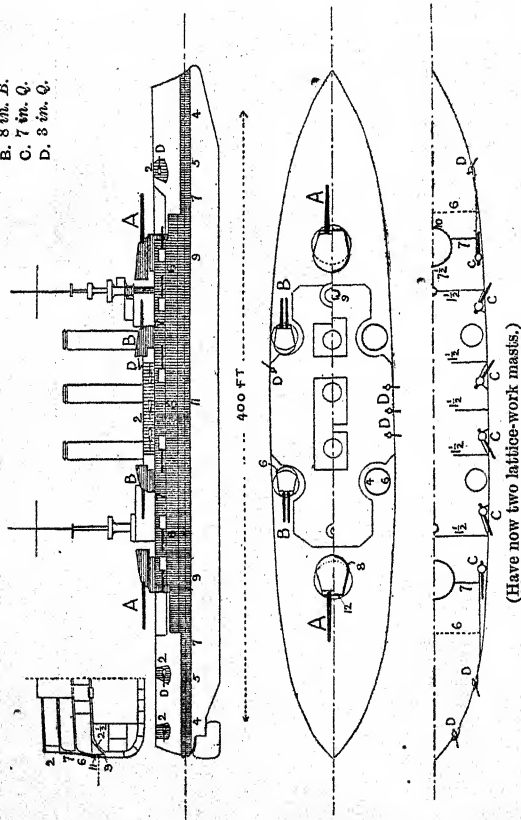
Armour, K.S.

A. 12 in. B.

B. 8 in. B.

C. 7 in. Q.

D. 3 in. Q.



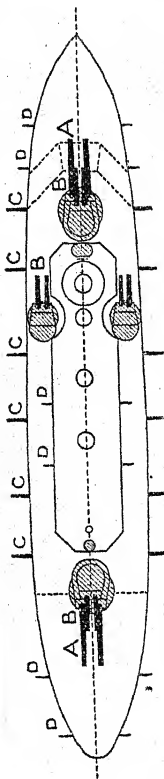
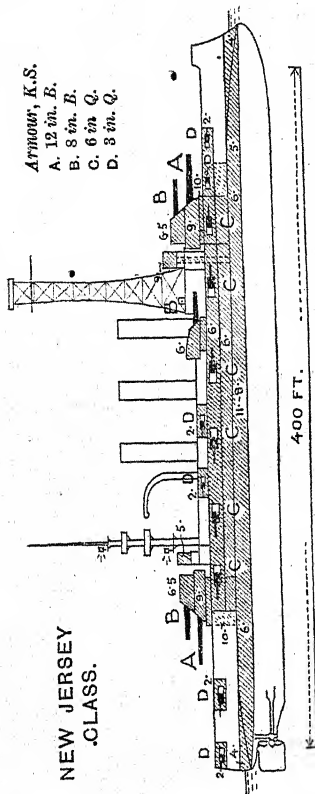
Armour, K.S.

A. 12 in. B.

B. 8 in. B.

C. 6 in. Q.

D. 3 in. Q.

NEW JERSEY  
CLASS.

(Have now two lattice-work masts.)

IDEFE  
870)

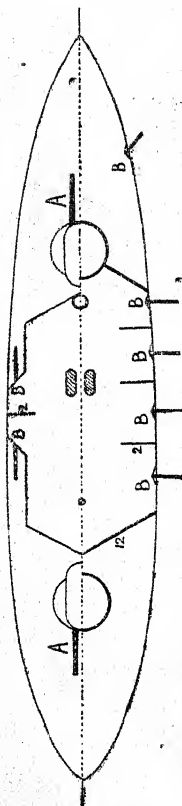
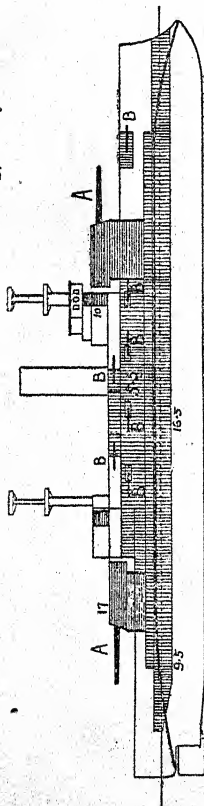
PRINCIPAL CONTENT

## ALABAMA CLASS.

*Armour, H.N.S.*

A. 13 in. B.

B. 6 in. Q.



(The *Maine* class is similar, but has two more 6 in. Q. in maindeck battery. They have also 3 funnels f. and a.)

(All have now two lattice-work masts.)

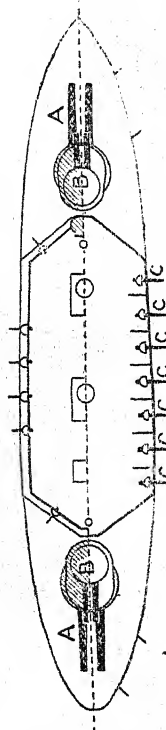
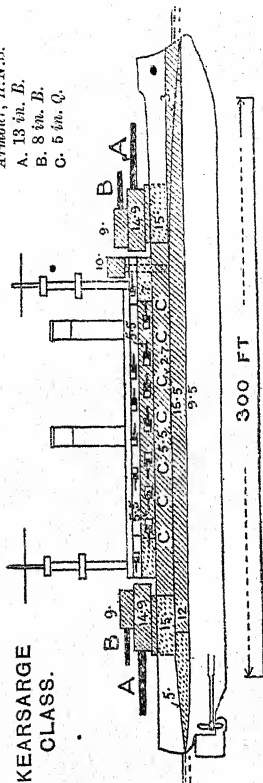
*Amour, H.N.S.*

A. 13 in. B.

B. 8 in. B.

C. 5 in. Q.

KEARSARGE  
CLASS.



(Have now two lattice-work masts.)

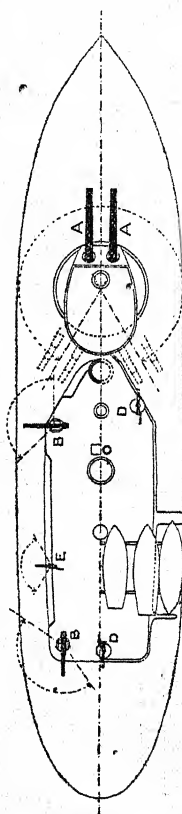
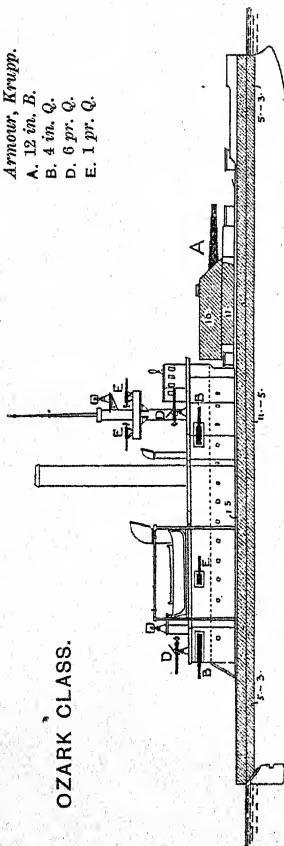
DEFENSE  
(870)

## PRINCIPAL CONTENTS

Armour, Krupp.

- A. 12 in. B.  
B. 4 in. Q.  
D. 6 pr. Q.  
E. 1 pr. Q.

OZARK CLASS.



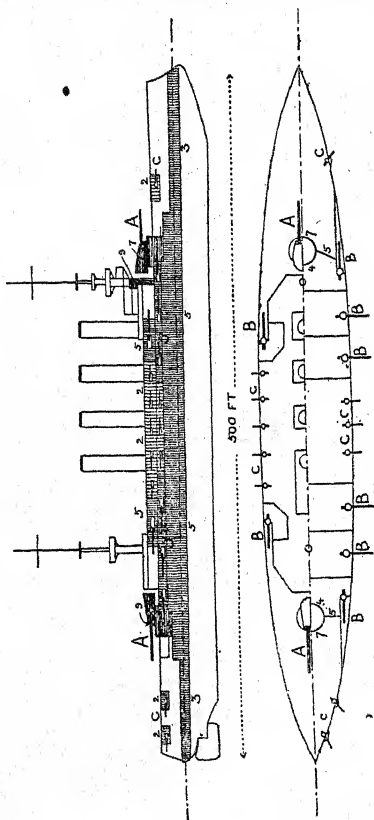
Armour, K.S.

A. 10 in. E.

B. 6 in. Q.

C. 3 in. Q.

WASHINGTON  
CLASS.



(Have now a lattice-work foremast.)

PRINCIPAL CONTENT

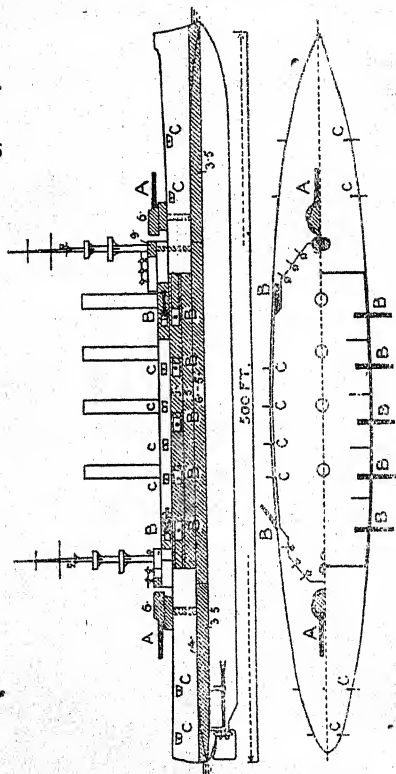
Armour, K.S.

A. 8 in. B.

B. 6 in. Q.

C. 3 in. Q.

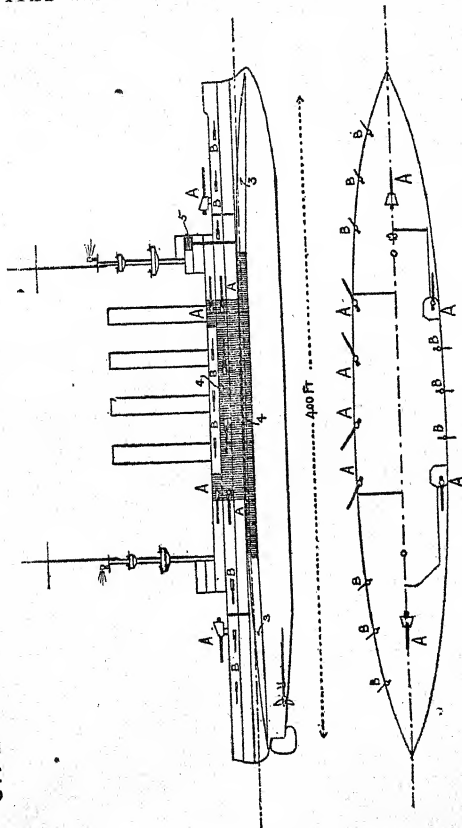
# CALIFORNIA CLASS.



(Have now a lattice-work foremast.)

Armour, K.S.  
A. 6 in. Q.  
B. 14 pr. Q.

ST. LOUIS CLASS.



IDEFE  
870)

PRINC





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NA  
DEFE  
1870)



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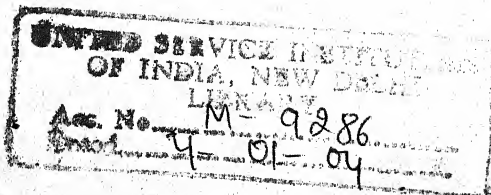
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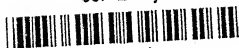


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